

State of Vermont

Policy, Planning & Intermodal Development Division

Policy, Planning and Research Bureau

Development Review & Permitting Services Section

One National Life Drive Montpelier, VT 05633-5001

vtrans.vermont.gov

[phone] [fax]

802-828-2653 802-828-2456

[ttd]

800-253-0191

Agency of Transportation

July 08, 2015

Shattuck Hill Investments, LLC Jeffrey L. Davis 2 Church Street, 5th Floor Burlington, VT 05401

> Subject: <u>Derby, I91, L.S. 0005+28 ~ 0012+14 LT & RT and</u> <u>Derby, US5, L.S. 0044+88 ~ 0058+08 LT & RT</u>

Dear Mr. Davis:

Your application for a permit to work within the State Highway right-of-way to signalize and re-configure Interstate I-91 exit 28 Northbound off ramp at the U.S. route 5 intersection and create a turn lane on U.S. route 5 at the exit 28 I-91 southbound on/ off ramp, at the location indicated, has been processed by this office and is enclosed.

Authorization to proceed to construction shall be contingent on the receipt of the following documents <u>prior to or on the day of the preconstruction meeting between the Permit Holder and/or their representatives, the Contractor and VTrans representatives;</u>

- a surety in the form of a bond or irrevocable letter of credit in the amount equal to the estimated construction costs – to remain in effect for 90 days after the Agency's final inspection and acceptance of the work,
- the Contractor's signature as a co-applicant to the Agency's 19 V.S.A. §1111 Permit submitted for the referenced project,
- A copy of the contract project plans and specifications, including all revisions and modifications required by the Agency.
- A pavement design and details approved by VTrans adhering to the VTrans Pavement Design Guide.

A preconstruction meeting to discuss work to be completed must be held prior to the Permit Holder's employees or contractor beginning work. The Permit Holder is required to notify the District Transportation Administrator at (802) 334-7934 and the VTrans Permitting Services Section at (802) 498-7055 a minimum of 5 working days in advance of such meeting.

Please contact the District Transportation Office #9 prior to starting work in the state highway right-of-way. The telephone number in Derby is (802) 334-7934.

Sincerely,

Nathan Covey Permit Coordinator Permitting Services

Enclosures

cc: District Transportation Office #9

Ruggiano Engineering Inc

District Environmental Coordinator #7
VTrans Construction Section - Ron Gray

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SPECIAL CONDITIONS

Authorization to proceed to construction shall be contingent on the receipt of the following documents <u>prior to or on the day of</u> the preconstruction meeting between the Permit Holder and/or their representatives, the Contractor and VTrans representatives:

- a surety in the form of a bond or irrevocable letter of credit in the amount equal to the estimated construction costs – to remain in effect for 90 days after the Agency's final inspection and acceptance of the work,
- the Contractor's signature as a co-applicant to the Agency's 19 V.S.A. §1111 Permit submitted for the referenced project,
- A copy of the contract project plans and specifications, including all revisions and modifications required by the Agency.
- A pavement design and details approved by VTrans adhering to the VTrans Pavement Design Guide.

This permit is granted subject to the restrictions and conditions on the back of the permit, with particular attention given to the Special Conditions listed below. This permit pertains only to the authority exercised by the Vermont Agency of Transportation (Agency) under Vermont Statutes Annotated, Title 19, Section 1111, and does not relieve the Permit Holder from the requirements of otherwise applicable statutes, rules, regulations or ordinances (e.g., Act 250, zoning, etc.). The Permit Holder shall observe and comply with all Federal and State laws and local bylaws, ordinances, and regulations in any manner affecting the conduct of the work and the action or operation of those engaged in the work, including all orders or decrees as exist at present and those which may be enacted later by bodies or tribunals having jurisdiction or authority over the work, and the Permit Holder shall defend, indemnify, and save harmless the State and all its officers, agents, and employees against any claim or liability arising from or based on the violation of any such law, bylaws, ordinances, regulations, order, or decree, whether by the Permit Holder in person, by an employee of the Permit Holder, by a person or entity hired by the Permit Holder, or by a Subcontractor or supplier.

This permit is one of three being issued for work associated with the project entitled, "Shattuck Hill Investments, LLC". Please refer to VTrans permits #39696 and # 39647.

The Permit Holder shall accomplish all work under this permit in accordance with the profile and notes of standard drawing D-20, copy attached, and the contract plans, to be submitted prior to the scheduling of the projects pre-construction meeting. The plans shall be those revised and modified from the attached plans dated July 1, 2015.

Permit holder shall continue to adhere to all conditions outlined in the Traffic Mitigation Agreement by and among SHATTUCK HILL INVESTMENTS, LLC and the STATE OF VERMONT AGENCY OF TRANSPORTATION ("VTrans") and the NORTHEASTERN VERMONT DEVELOPMENT ASSOCIATION ("NVDA").

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A preconstruction meeting to discuss work to be completed must be held prior to the Permit Holder's employees or contractor beginning work. The Permit Holder is required to notify the District Transportation Administrator at (802) 334-7934 and the VTrans Permitting Services Section at (802) 498-7055 and the Traffic Signal Operations Engineer Derek Lyman at (802) 249-5079 a minimum of 5 working days in advance of such meeting.

Please note that Municipalities and the Vermont Agency of Transportation <u>are not members of Dig Safe</u>. The Permit Holder shall contact Tim Sweeney at (802) 279-0585. They will need to locate and mark all existing buried utility facilities owned by the Agency near the location of the proposed work. The permit holder shall also contact the municipalities to mark all existing buried utility facilities.

The Permit Holder is advised that the Agency has a sign project on US Route 5/ VT 105 named BARTON-DERBY STPG Sign (46) and a paving project on US 5 named NEWPORT CITY STP 2704(1). Coordination and adjustments may be necessary with activities associated with work under this project and any other Agency project so as to cause no undue delay in traffic or to the Contractor of these VTrans projects along the highway corridor. Coordination shall be made through the Agency's Project Inspectors.

All materials and construction practices shall be in accordance with the Vermont Agency of Transportation 2011 Standard Specifications for Construction, with the latest amendments and all applicable Vermont Agency of Transportation Standard Drawings.

The Permit Holder shall provide VTrans Permitting Services with a copy of as-built drawings no later than 30 days following the projects final inspection approval.

The Permit Holder shall be provide all construction submittals for the pay items being used as outlined in the Vermont Agency of Transportation 2011 Standard Specifications for Construction, with the latest amendments to the VTrans Project Inspector prior to the beginning of construction.

The Permit Holder shall be provide all quantities for future material sampling and testing for the pay items being used as outlined in the Vermont Agency of Transportation 2011 Standard Specifications for Construction, with the latest amendments to the VTrans project inspector prior to the beginning of construction.

The Permit Holder shall arrange for and provide inspection and material testing by qualified engineering personnel and testing laboratories to ensure that all work conforms to Agency standards and the design plans. All results shall be provided to the Agency Project Inspector. Any materials or tests failing Agency standards may be required to be removed and replaced in their entirety at the owner's expense.

The Permit Holder shall have a Public Relations Specialist assigned to address inquiries, questions and provided notification to the public of project activity, as deemed

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necessary. The Permit Holder and/or their assignee shall keep the Agency's Project Inspector apprised of the project schedule; specifically, any changes related to traffic control, major construction activities and other milestones as deemed necessary by the Agency's Project Inspector.

The Agency reserves the right to retain material Items removed from State highway right-of-way and which are deemed property of the State. These items may include but are not limited to pavement grindings, signage, traffic and pedestrian signal system components and street lighting. These items shall be delivered to the Agency's District Transportation Office in Derby, or other specified location by the Agency, by the Permit Holder and/or their agent. Items not salvaged for State use shall be removed and appropriately disposed of by the Permit Holder and/or their Contractor at their expense.

The Permit Holder shall be responsible for the coordination, in advance of construction, of all necessary utility relocations so as not to delay the project construction. This includes both aerial and underground utilities and temporary and permanent relocation work required to address various traffic control phases. This permit does not cover work performed by utility companies and/or their contractors, a separate 19 V.S.A. §1111 Permit shall be required from the utility owners if utility relocation work within the State highway right-of-way is needed.

The Permit Holder shall contact the Agency's Motor Vehicles' Oversize Permit Section prior to construction to notify them of any roadway restrictions associated with the project construction; this includes but is not limited restricted travel widths less than 14 feet in width.

Upon completion of the work, the Permit Holder shall be responsible to schedule and hold a final inspection. The Permit Holder is required to notify the District Transportation Administrator five (5) working days in advance of such inspection.

The Permit Holder shall reinstall guardrail in accordance with applicable VTrans Standards. All work shall be performed by a contractor approved by the Agency. Any guardrail damaged shall be replaced with new materials as deemed necessary by the District Transportation Administrator.

Roadway shoulder areas must be maintained free of unnecessary obstructions, including parked vehicles, at all times while work is being performed under this permit.

The Permit Holder shall use methods that will minimize the tracking of material onto state highways. If tracking does occur, it will be immediately cleaned up so that the safety of highway users is not compromised.

All grading within the State Highway right-of-way associated with the proposed construction shall be subject to inspection and approval by the District Transportation Administrator or his or her

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staff. The Permit Holder shall be responsible for ensuring that all grading work in or on the State Highway right-of-way complies with applicable statutes, rules, regulations or ordinances. The Permit Holder shall replace any disturbed state property bounds. These bounds must be reset by a land surveyor licensed in the State of Vermont.

In areas to be grass covered, the Permit Holder shall restore turf by preparing the area and applying the necessary topsoil, limestone, fertilizer, seed, and mulch, all to the satisfaction of the District Transportation Administrator. The Permit Holder shall be responsible for ensuring that all turf restoration work in or on the State Highway right-of-way is in compliance with applicable statutes, rules, regulations or ordinances.

The Permit Holder must install temporary pavement prior to weekend shutdown after completion of backfilling where an open cut excavation has been made through a roadway subject to vehicular traffic or where construction for any roadway widening for turn lanes has been brought to grade. The temporary pavement shall consist of, at least, 2 inches of compacted bituminous concrete. Temporary pavement shall be properly maintained and shall be replaced with permanent pavement prior to completion of the project or suspension of work for the winter season.

The placement, size, shape, and color of all pavement markings and signage must be in accordance with the most recent editions of the MUTCD (Manual on Uniform Traffic Control Devices) and Vermont standards. All existing pavement markings that become disturbed or overlaid with pavement shall be replaced by the Permit Holder with "in kind" (durable or paint) markings to the satisfaction of the District Transportation Administrator. The Permit Holder shall bear all costs associated with this work.

The Permit Holder must exercise extreme care when working adjacent to existing storm drainage pipes and drop inlets owned by the State. Any damage caused by the Permit Holder to the storm drainage system must be repaired using new materials. Repairs must be inspected by the VTrans.

All existing signs, posts, and other traffic control devices shall be maintained within the U.S. Route 5 and Interstate 91 right-of-way. If any sign assemblies need to be relocated temporarily, they shall be moved as short a distance as possible. Sign assemblies are to be relocated back to their original positions as soon as possible. Any damage by the Contractor to existing signs, posts, and/or bases shall be repaired or replaced at the expense of the Contractor and to the satisfaction of the District Transportation Administrator.

The underground utility crossings under the state highway shall be installed by jacking or boring in accordance with the attached standard D-20.

The Permit Holder must backfill all open trenches or pits at the end of each day. With permission from the District Transportation Administrator, trenches or pits may be left open for short periods of time if properly protected. In no case shall trenches or pits be left open over a weekend. The Permit Holder shall be responsible for ensuring that all trench or pit work in or on

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the State Highway right-of-way is in compliance with applicable statutes, rules, regulations or ordinances.

The Permit Holder shall promptly and unconditionally pay for full repair and restoration of any and all damages to existing underground utility facilities (meaning <u>any</u> underground pipe, conduit, wire or cable, including appurtenances) that have been brought about by the execution of the permitted work. The Permit Holder also is required to pay for any costs to repair the highway following and resulting from any repairs to existing utilities occurring as a result of the work covered by this permit. Except with the specific, written permission of the Engineer, the Permit Holder or his or her contractor shall expose all underground facilities to verify their location and depth, at each location where the authorized boring or drilling work crosses a facility; and at reasonable intervals when closely paralleling a facility. Whenever possible, existing facilities should be crossed at a perpendicular angle. The Permit Holder shall be

responsible for obtaining the modification of this permit, if necessary, for any additional survey work before initiating boring or drilling operations under the permit. The Agency will treat the Permit Holder's failure to fully, promptly, and conscientiously comply with all of conditions of this paragraph, including but not limited to the obligation to pay for repairs, as grounds for the Agency to refuse to grant any further requests by the Permit Holder for any other permits for subsurface work unless the Permit Holder furnishes irrevocable financial security, in a type and an amount deemed sufficient by the Agency in its sole discretion, prior to such future subsurface work.

The Permit Holder shall erect and maintain all necessary site erosion prevention and sediment control measures to maintain compliance with Vermont Water Quality Standards within the State Highway right-of-way. All exposed earth areas having erosion potential must be temporarily or permanently stabilized within seven (7) days of disturbance or as necessary to prevent sediment from entering the Agency's State Highway stormwater management system. Slopes steeper than 1:3 shall make use of appropriate erosion matting.

The District Transportation Administrator and the appropriate unit of the State Police are to be notified a minimum of 72 hours, prior to commencing work on the interstate highway or its ramps.

The Permit Holder's construction methods must not impede the flow of traffic on I-91.

No vehicles shall be parked on the traveled way or shoulders of I-91.

Construction methods must be used which will not impede the flow of traffic on the interstate highway or its ramps.

The Permit Holder shall verify the appropriate safety measures needed, prior to construction, so proper devices and/or personnel are available when and as needed. Traffic control devices,

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shall be in conformance with the MUTCD (Manual on Uniform Traffic Control Devices), Agency standards and any additional traffic control deemed necessary by the District Transportation Administrator. The Permit Holder's failure to utilize proper measures shall be considered suffi

cient grounds for the District Transportation Administrator to order cessation of the work immediately.

The Permit Holder will perform construction in such a way as to minimize conflicts with normal highway traffic. When two-way traffic cannot be maintained, the Permit Holder shall provide a sign package that conforms to the MUTCD (Manual on Uniform Traffic Control Devices) or Agency standards, as well as trained Flaggers. The District Transportation Administrator may require a similar sign package with trained Flaggers whenever it is deemed necessary for the protection of the traveling public. In addition, the District Transportation Administrator may require the presence of Uniform Traffic Officers (UTOs); moreover, the presence of UTOs shall not excuse the Permit Holder from its obligation to provide the sign package and Flaggers.

Prior to the start of construction, the Permit Holder and /or their Contractor shall submit the traffic control plan to be implemented to the Agency for review and approval; allow a minimum of one week for review and approval of each submittal if more than one review is necessary. This plan shall also include ADA pedestrian access throughout the project area. If a speed limit reduction is proposed through the project area, a temporary speed certificate shall be submitted to the Agency for approval; allow a minimum of one week for review and approval of the certificate.

The Permit Holder shall ensure that all workers exposed to the risks of moving highway traffic and/or construction equipment wear high-visibility safety apparel meeting the requirements of ISEA (International Safety Equipment Association) "American National Standards for High-Visibility Safety Apparel," and labeled as ANSI (American National Standards Institute) 107-2004, or latest revisions, for Performance Class 2 or 3 requirements. A competent person - one designated by the Permit Holder's Contractor to be responsible for worker safety within the activity area of the State highway right-of-way -shall select the appropriate class of garment. The Engineer may suspend this permit until compliance is obtained.

Independence; **Liability**: The Permit Holder will act in an independent capacity and not as officers or employees of the State.

The Permit Holder shall defend the State and its officers and employees against all claims or suits arising in whole or in part from any act or omission of the Permit Holder or of any agent of the Permit Holder. The State shall notify the Permit Holder in the event of any such claim or suit, and the Permit Holder shall immediately retain counsel and otherwise provide a complete defense against the entire claim or suit.

After a final judgment or settlement, the Permit Holder may request recoupment of specific defense costs and may file suit in the Washington Superior Court requesting recoupment. The Permit Holder shall be entitled to recoup costs only upon a showing that such costs were entirely

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unrelated to the defense of any claim arising from an act or omission of the Permit Holder.

The Permit Holder shall indemnify the State and its officers and employees in the event that the State, its officers or employees become legally obligated to pay any damages or losses arising from any act or omission of the Permit Holder.

Insurance: Before beginning any work under this Permit the Permit Holder must provide certificates of insurance to show that the following minimum coverages are in effect. It is the responsibility of the Permit Holder to maintain current certificates of insurance on file with the State for the duration of work under the Permit. No warranty is made that the coverages and limits listed herein are adequate to cover and protect the interests of the Permit Holder for the Permit Holder's operations. These are solely minimums that have been established to protect the interests of the State.

<u>Workers Compensation:</u> With respect to all operations performed under the Permit, the Permit Holder shall carry workers compensation insurance in accordance with the laws of the State of Vermont.

<u>General Liability and Property Damage:</u> With respect to all operations performed under the Permit, the Permit Holder shall carry general liability insurance having all major divisions of coverage including, but not limited to:

Premises - Operations
Products and Completed Operations
Personal Injury Liability
Contractual Liability

The policy shall be on an occurrence form and limits shall not be less than:

\$2,000,000 Per Occurrence \$2,000,000 General Aggregate \$2,000,000 Products/Completed Operations Aggregate \$ 50,000 Fire/Legal Liability

Permit Holder shall name the State of Vermont and its officers and employees as additional insureds for liability arising out of this Permit.

<u>Automotive Liability:</u> The Permit Holder shall carry automotive liability insurance covering all motor vehicles, including hired and non-owned coverage, used in connection with the Permit. Limits of coverage shall not be less than: \$1,000,000 combined single limit.

Permit Holder shall name the State of Vermont and its officers and employees as additional insureds for liability arising out of this Permit.

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FOR AGENCY USE ONLY ~58408 88+77 Derby 1855 Route: Town: Mile Marker: Log Station:

1111 PERMIT APPLICATION OF TRANSPORTATION VERMONT AGENCY 19 V.S.A. §

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Derby

existing lane at I-91 northbound Member (only required for Permit Application for removal distance to nearest mile marker or intersection & which side) camp at U.S. Route 5 - If Yes, # 7R0615 and amendments Managing 17 1 of turn Owner's/Applicant's Name, Address & Phone No. Shattuck Hill Investments, LLC 2 Church Street, 5th Floor, Burlington, VT 05401 and De of work to be performed in the highway right-of-way (attach sketch) Remova curbed island and extension of east bound left signalization If Yes, name and # of each the Date: Date: Position Title: Position Title: lane at 14-054 Co-Applicant's Name, Address & Phone No. (if different from above) # southbound interchange; right-turn slip No □ - If Yes, - If Yes, Page: □ 8 _ ⊗ □ 8 28 off ramp at Yes□ No Summer Davi Yes 🔀 Yes 🖾 (Print name above) (Print name above) Yes The location of work (town, highway route, existing begin Book: Date applicant expects work to begin Is a 30 VSA § 248 permit required? interchange. an Act 250 permit required? exit a Zoning Permit required? Deed Reference Other permit(s) required? Sign in Shaded area: Sign in Shaded area: I-91 Co-Applicant: Description Property | S

Applicant to Complete.

INSTRUCTIONS

-Contact the Agency of Transportation Utilities and Permits Unit (802.828.2653) or your local area Agency Transportation Maintenance District to determine your issuing authority.

-Contact the issuing authority to determine what plans and other documents are required to be submitted with your 19 VSA § 1111 permit application.

-Complete this TA 210 Form (some information may not apply to you) and attach all necessary documents and submit it to the issuing authority. We require this application to be signed by the property owner or their legally authorized representative. Original signatures are required on an original TA 210 Form.

-The Owner/Applicant and Co-Applicant (if applicable) declares under the pains and penalty of knowledge true and complete.

If you have any questions contact the issuing authority.

PERMIT APPROVAL

on US5 at the exit 28 and 191 southbound on/off ramp, at the location indicated in accordance with the attached plan This covers only the work described below: Permission is granted to work within the State Highway right-of-way to signalize and re-configure Interstate 191 exit 28 Northbound off ramp at the US5 intersection and create a turn lane and permit special conditions. The work is subject to the restrictions and conditions on the reverse page, plus the Special Conditions stated on the attached page(s).

Issued Date July 8, 201 December 1, 2015 epresentative for Authorized Répresentative for Secretary of Transportation Date work is to be completed Cus By

DTA or Designee

Date work accepted:

NOTICE: This permit covers only the Vermont Agency of Transportation's jurisdiction over this highway under Title 19 Section 1111 VSA. It does not release the petitioner from the requirements of any other statutes, ordinances, rules or regulations.

contacted the District Transportation Office at: No work shall be done under this permit until the owner/applicant has

District #9, 4611 US5, Newport, VT 05855 (802) 334-7934

January 1, 2013 (All previously dated editions are not valid) TA 210

RESTRICTIONS AND CONDITIONS

PERMIT #_________RECEIVED

DEFINITIONS:

"Agency" means the Vermont Agency of Transportation.

"Engineer" means the authorized agent of the Secretary of Transportation.

"Owner/Applicant" means the party(s) to whom the permit is to be issued.

"Co-Applicant" means the party who performs the work, if other than Owner/Applicant PERMITTING SERVICES.

"Permit Holder" means the party who currently owns the lands abutting the highway that are the subject of the permit.

By accepting this permit, or doing any work hereunder, the Owner/Applicant agrees to comply with all of the conditions and restrictions and any imposed special conditions. If the Owner/Applicant is aggrieved by the restrictions and conditions or special conditions of the permit, they shall submit a written request for consideration to the Engineer prior to starting any work. No work will be authorized by the Agency, or performed under the permit, until the dispute is fully

Act No. 86 of 1987 (30 VSA Chapter 86) ("Dig Safe") requires that notice be given prior to making an excavation. It is suggested that the Permit Holder or his/her contractor telephone Dig Safe at 811 at least 48 hours before, and not more than 30 days before, beginning any excavation at any location. Additionally, before excavation and/or pavement grinding in or on the State Highway right-of-way, the Applicant's Contractor must contact the District Transportation Administrator to obtain/verify the location of Agency underground utility facilities or the absence thereof.

The Permit Holder is to have a supervisory representative present any time work is being done in or on the State Highway

Permit Holder is to have a supervisory representative present any time work is being done in or on the State Highway A copy of this permit and Special Conditions must be in the possession of the individual performing this work for the Permit Holder. right-of-way.

Except with the specific, written permission of the District Transportation Administrator, all work in the State highway right-ofway shall be performed during normal daylight hours and shall cease on Sunday, on all holidays (which shall include the day before and the day following), during or after severe storms, and between December 1 and April 15. These limitations will not apply for the purposes of maintenance, emergency repairs, or proper protections of the work which includes, but not limited to, the curing of concrete and the repairing and servicing of equipment.

The Owner/Applicant shall be responsible for all damages to persons or property resulting from any work done under this permit, even if the Applicant's Contractor performs the work. All references to the Owner/Applicant also pertain to the Co-Applicant.

The Owner/Applicant must comply with all federal and state statutes or regulations and all local ordinances controlling occupancy of public highways. In the event of a conflict, the more restrictive provision shall apply.

The Owner/Applicant must, in every case where there is a possibility of injury to persons or property from blasting, use blasting mats and bags of sand, if necessary, to prevent the stone from scattering. All existing utility facilities shall be protected from damage or

t night. The Owner/Applicant shall not do any work or place any obstacles within the state highway right-of-way, except as authorized The Owner/Applicant shall erect and maintain barriers needed to protect the traveling public. The barriers shall be properly lighted at

The Owner/Applicant may pay the entire cost of the salary, subsistence and traveling expenses of any inspector appointed by by this permit

the Engineer to supervise such work. The Engineer may modify or revoke the permit at any time for safety-related reasons, without rendering the Agency or the

State of Vermont liable in any way

In addition to any other enforcement powers that may be provided for by the law, the Engineer may suspend this permit until compliance is obtained. If there is continued use or activity after suspension, the Engineer may physically close the work area and take

corrective action to protect the safety of the highway users.

The Permit Holder shall be responsible to rebuild, repair, restore and make good all injuries or damage to any portion of the highway right-of-way that has been brought about by the execution of the permitted work, for a minimum period of eighteen (18) months after final inspection by the District.

Any variance from approved plans is to be recorded on "as-builts" with copies provided to both the Chief of Utilities and District Transportation Administrator.

ACCESS

This permit (if for access) does not become effective until the owner/applicant records in the office of the appropriate municipal clerk, the attached "Notice of Permit Action"

As development occurs on land abutting the highways, the Agency may revoke a permit for access and require the construction of other access improvements such as the combination of access points by adjoining owners.

Under Title 19, Section 1111, Vermont Statutes Annotated, no deed purporting to subdivide land abutting a state highway can be recorded unless all the abutting lots so created are in accordance with the standards of Section 1111.

The Permit Holder acknowledges and agrees that neither this permit nor any prior pattern of use creates an ownership interest or other form of right in a particular configuration or number of accesses to or through the highway right-of-way, and that the right of access consists merely of a right to reasonable access the general system of streets, and is not a right to the most convenient access or any specific configuration of access.

The Owner/Applicant shall install catch basins and outlets as may be necessary, in the opinion of the Engineer, to preclude interference with the drainage of the state highway. Direct connections shall <u>not</u> be allowed without written approval. **UTILITY WORK; CUTTING AND TRIMMING TREES:**

The Owner/Applicant shall obtain the written consent of the adjoining owners or occupants or, in the alternative, an order from the State Transportation Board in accordance with Title 30, Section 2506, Vermont Statutes Annotated, regarding cutting of or injury to

In general, all utilities shall be located adjacent to the highway right-of-way boundary line and shail be installed without damaging the highway or the highway right-of-way. No pole, push-brace, guy wire or other aboveground facilities shall be placed closer than 10 feet to the edge of traveled-way. If the proposed utility facilities are in conflict with the above, each location is subject to the approval of the Engineer.

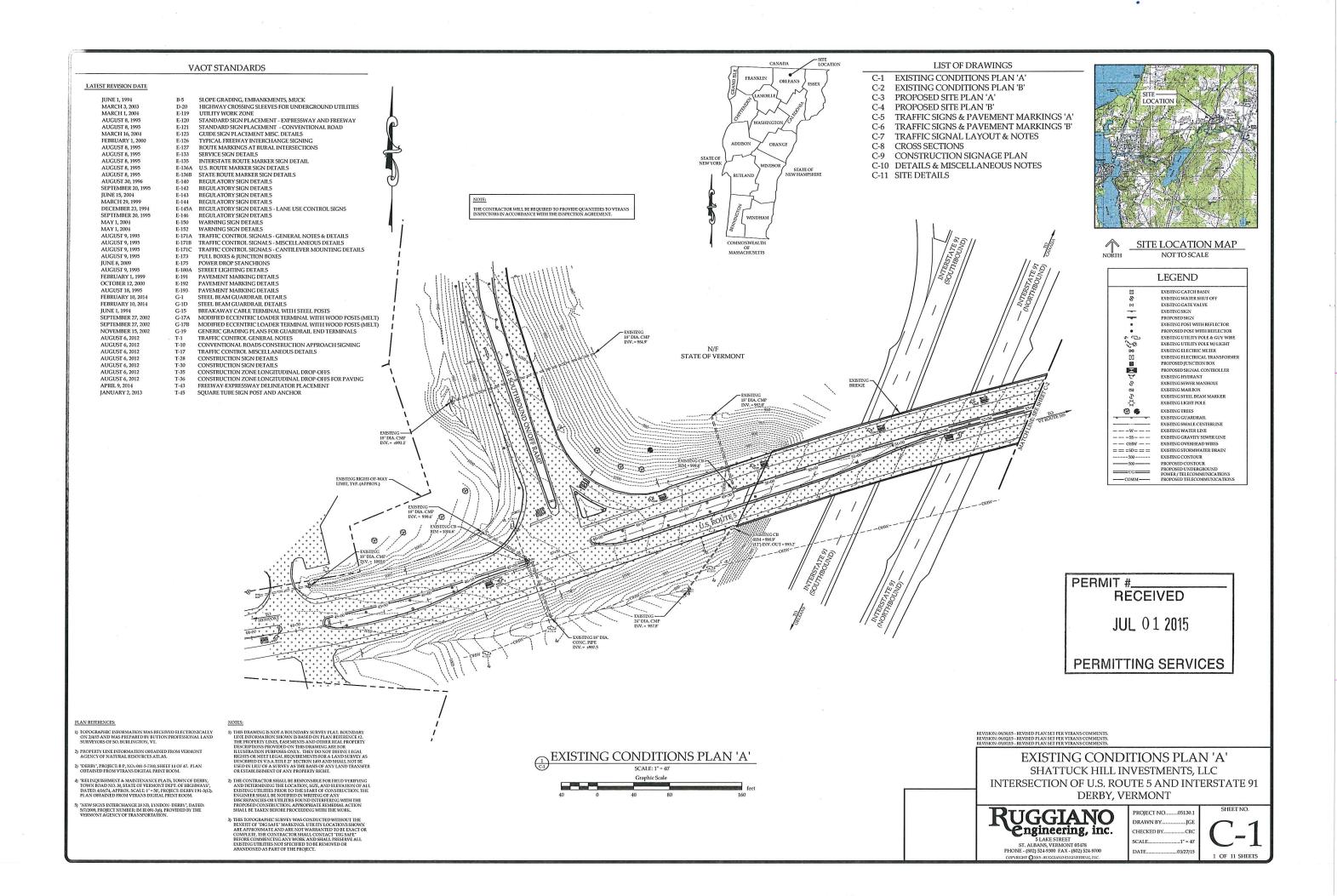
and culverts. oles and appurtenances shall be located out of conflict with ditches

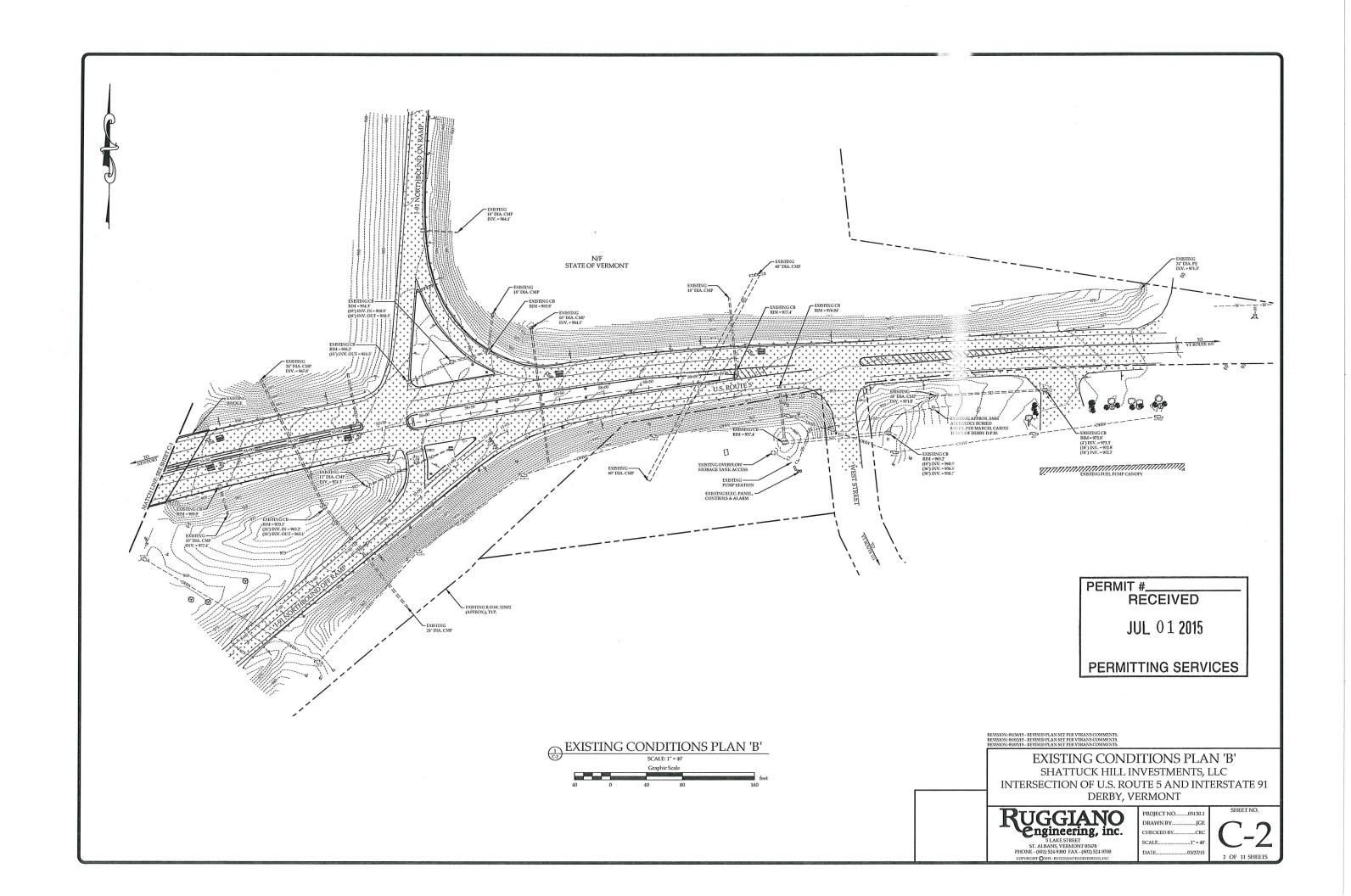
Where the cutting or trimming of trees is authorized by permit, all debris resulting from such cutting

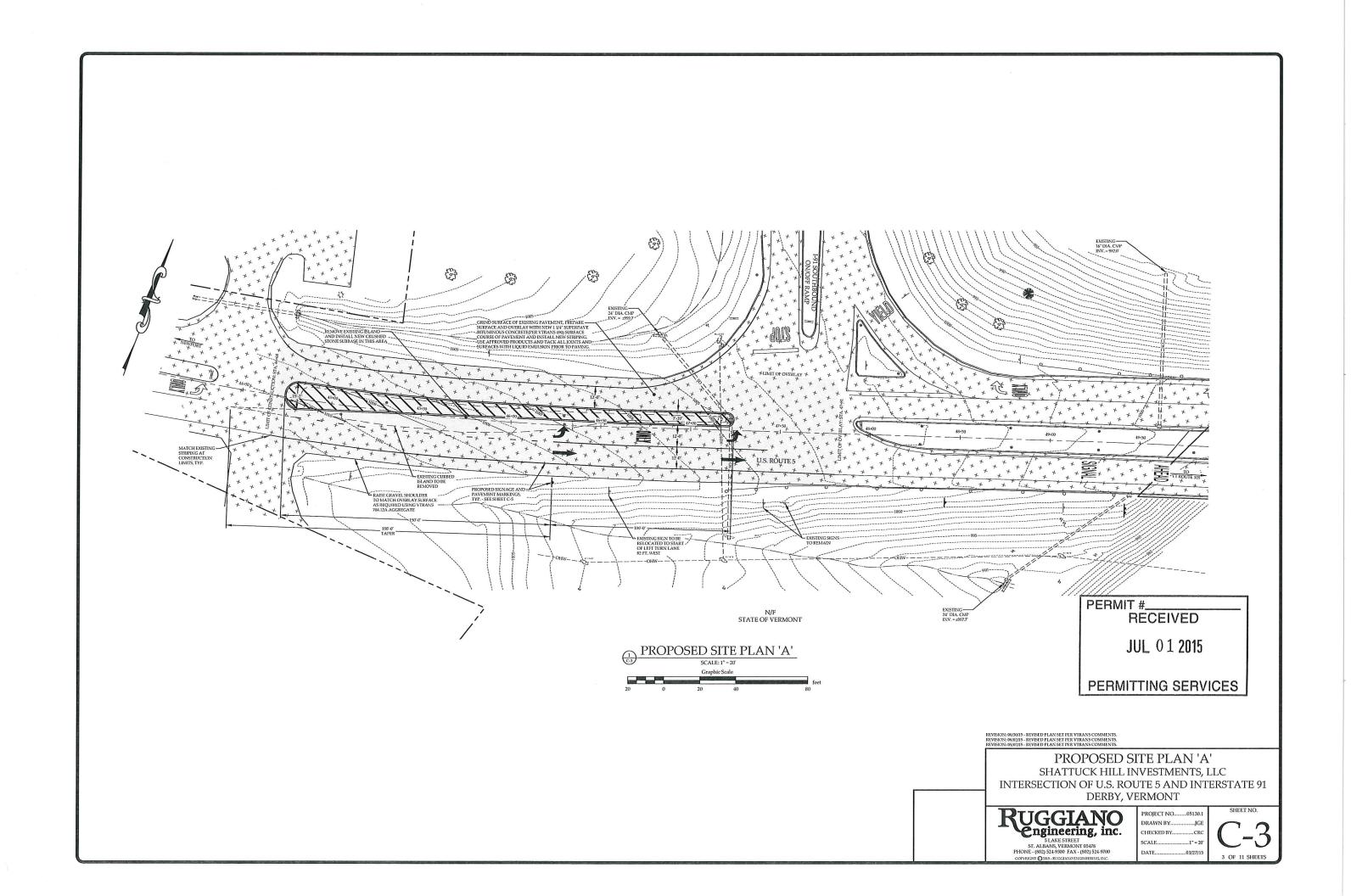
removed from the highway right-of-way.

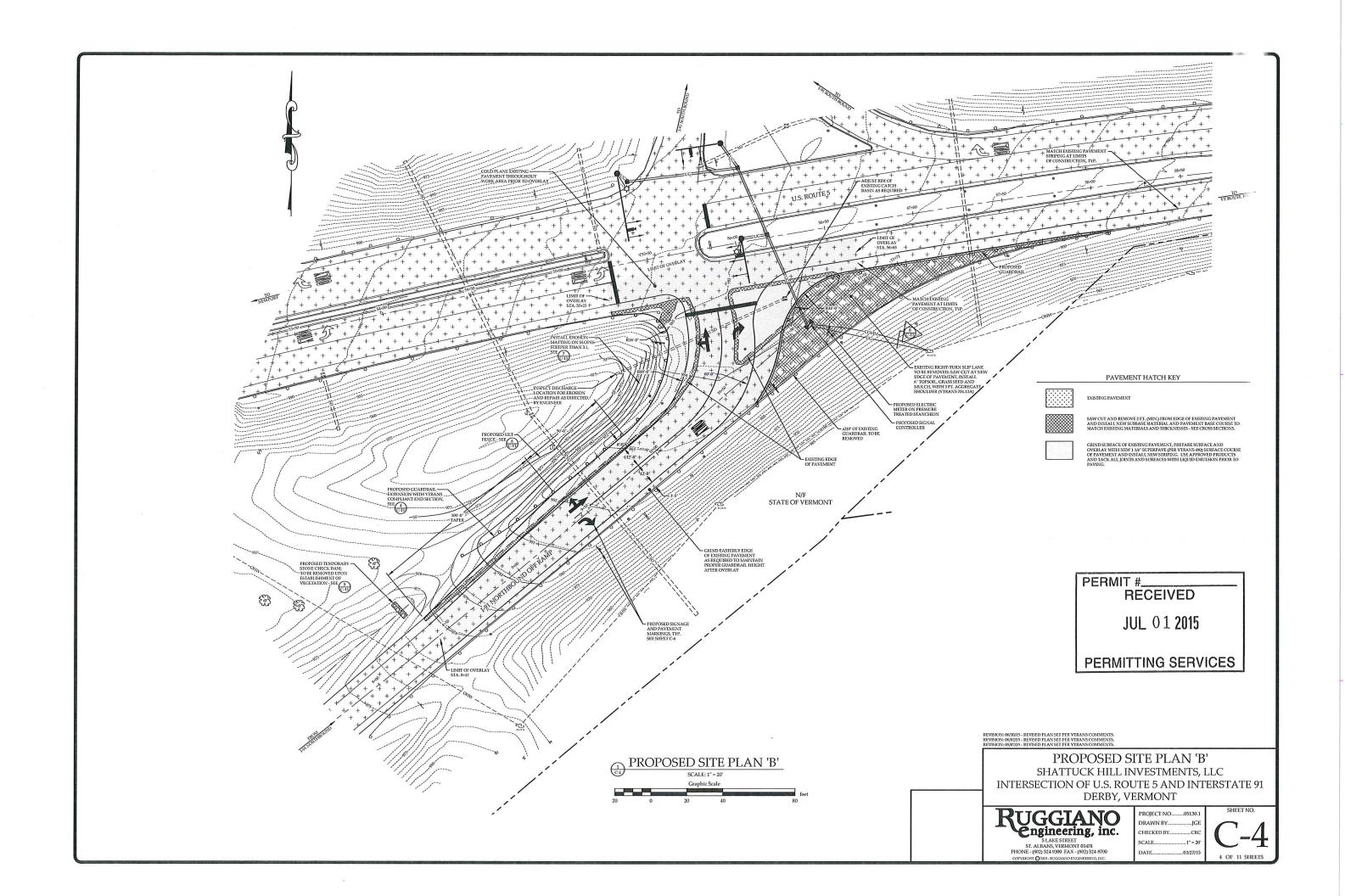
Open cut excavation for highway crossings is NOT the option of the Applicant, and may be utilized only where attempted jacking, drilling, or tunneling methods fail or are impractical. The Owner/Applicant shall obtain an appropriate modification of the highway permit from the Engineer before making an open cut. highway permit rro JOINT PERMITS:

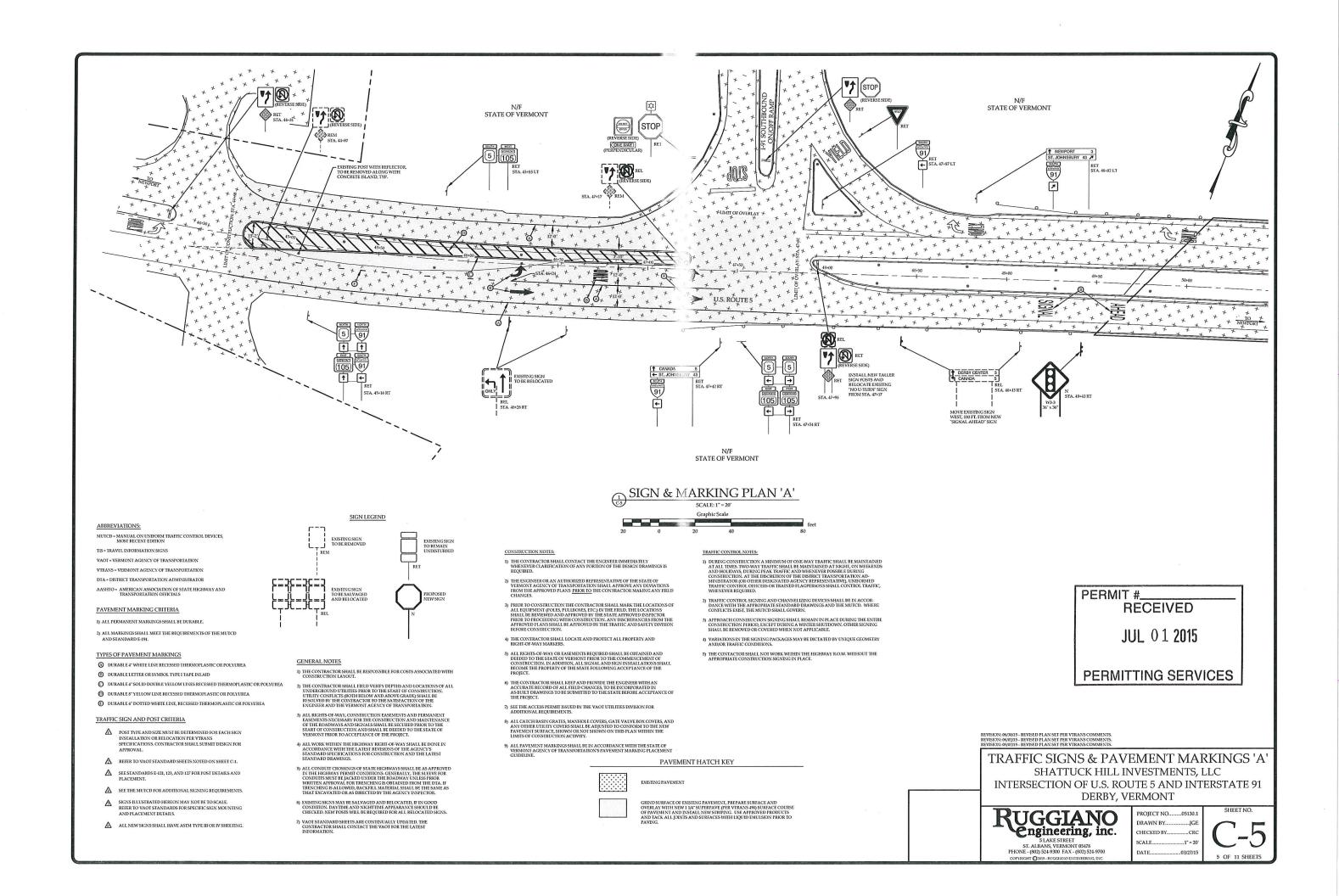
A joint permit application is required when more than one party will be involved with the construction, maintenance, and/or operation of the facility being constructed under this permit. Examples include, but are not limited to, joint ownership or occupancy of a utility pole line and construction of a municipal utility line by a contractor. Both utility companies, and in the second case, the municipality and the contractor, must be joint applicants.

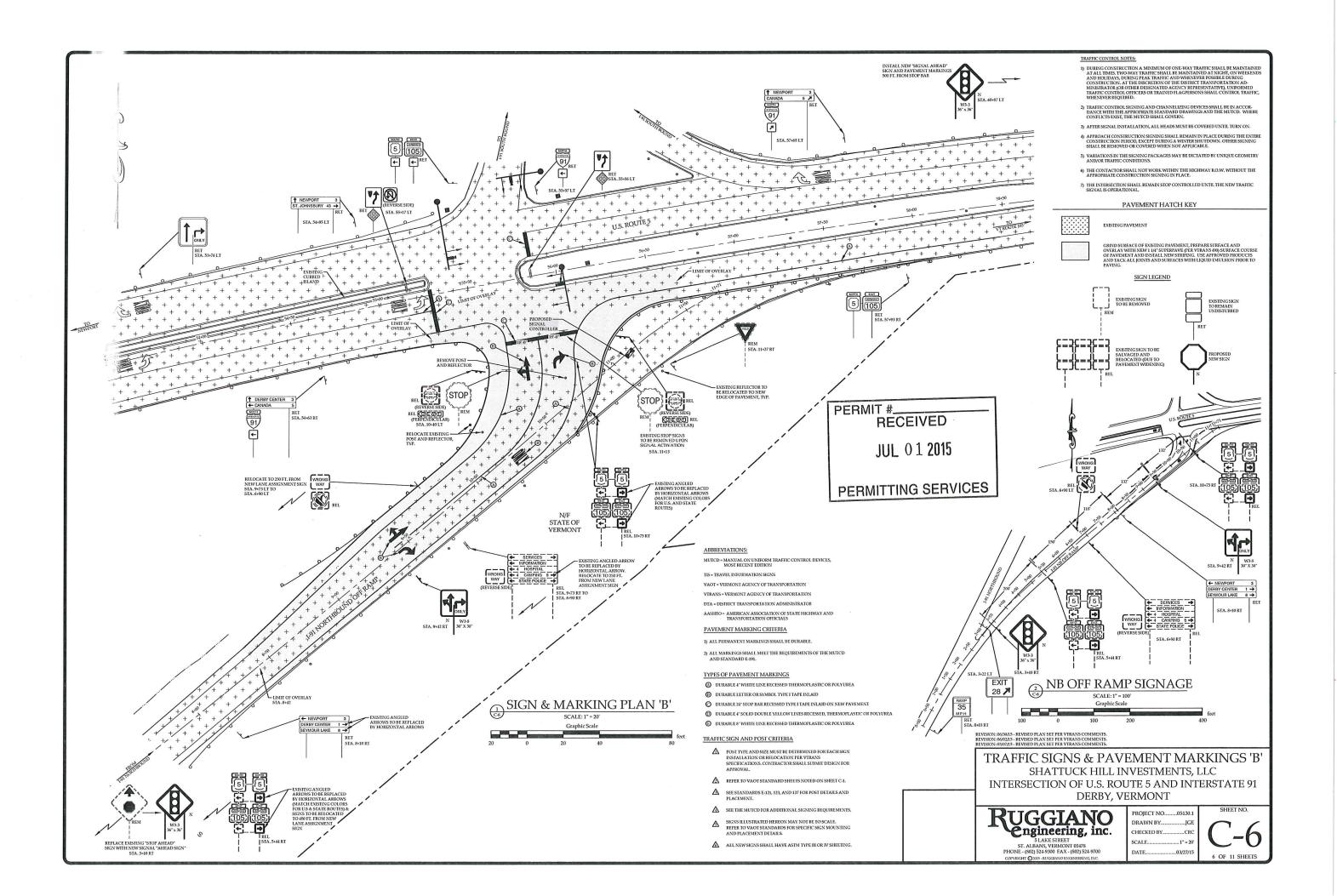


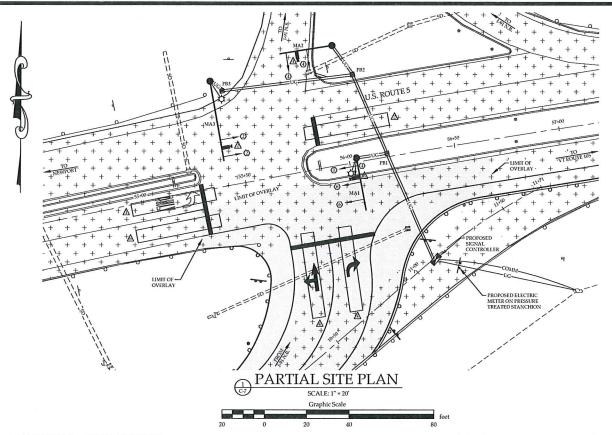








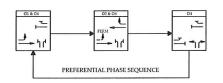




PROPOSED SIGNAL TIMING AND PHASING DIAGRAM US ROUTE 5 AT I-91 EXIT 28 NORTHBOUND RAMPS

				Ø1 (EB)	le .		Ø6 (EB)			Ø2 (WB)		Ø4 (NB)		I
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US ROUTE 5	EB	1	◆ G-	4-Y-	R	FY	Y	R	R	R	R	R	R	R	FR
US ROUTE 5	WB	2	R	R	R	R	R	R	G	Y	R	R	R	R	FY
I-91 NB RAMP	NB	4	R	R	R	R	R	R	R	R	R	G	Y	R	FR
MINIMAL GREEN			8	r		8	_		8			8			
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MAX 1 (ALL OTHER TIMES) OFF PEAK			11			64			47			14			د ا
MAX 2 6:00 AM - 10:00 AM			11			64			47			14			کج ا
MAX 3 3:00 PM - 7:00 PM		11			60			43			18			EMERGENCY	
CHANGE				4	2		4	2		4	2		4	2	PA
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MEMORY			NO	NLOCK	ING	NO	NLOCK	ING	NO	NLOCK	ING	NO	NLOCK	ING	1

DETECTO	DR DATA					
DETECTOR GROUP NO.	DETECTOR NO.	NO. SECTION/ SIZE	OPERATIONS	EXTENSION (SECONDS)	CALL DELAY (SECONDS)	CALL PHASE
Λ	6	1 - 6' x 40'	PRESENCE	0	5	Ø1
/2\	2	1 - 6' x 40'	PRESENCE	0	0	Ø2
1	4	2 - 6' x 40'	PRESENCE	0	5	04
6	6	1 - 6' x 40'	PRESENCE	0	0	Ø6



WIRED 2" CONDUIT	DESCRIPTION
	P
60 x 4	S
15	S
45 x 4	. S
20	S
65 x 4	S
10	S
	2* CONDUIT 60 x 4 15 45 x 4 20 65 x 4

SIGNAL WIRE

NOTE - EACH RUN INCLUDES A SPARE 2" CONDUIT, IN ADDITION

TO BE STATE OF STATE O

	MAJOR ITEMS REQUIRED
QUANTITY	DESCRIPTION
2	25' MAST ARM ASSEMBLY, BASE & FDN.
1	40' MAST ARM ASSEMBLY, BASE & FDN.
7	SIGNAL HEAD, 3 SECTION, 12" LENSES
1	SIGNAL HEAD, 4 SECTION, 12* LENSES
3	VIDEO STOP BAR DETECTORS
1	DETECTION PROCESSOR
3	PULL BOX
1	TRAFFIC SIGNAL CONTROLLER
1	CONTROLLER CABINET & FOUNDATION
LABOR NE	MISCELLANEOUS EQUIPMENT, MATERIAL, AND CESSARY TO PROVIDE A COMPLETE OPERATING ONTROL SIGNAL.**

2,4,6 1 ® ©

" THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AN ARE FURNISHED FOR INFORMATION ONLY: MISCELLANED ARE FURNISHED FOR INFORMATION ONLY, MISCELLANGE (UNLISTED) WHIRE, CABLE, HARDWARE, ETC. ARE REQUIRE TO PROVIDE FOR A FUNCTIONING TRAFFIC SIGNAL SYSTE THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF THE NUMBER OF ITEMS AND THE TYPES OF EQUIPMEN

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PERMITTING SERVICES

TRAFFIC SIGNAL GENERAL NOTES

A) NEW SIGNAL EQUIPMENT

1) ALL SIGNAL HEADS SHALL BE 12" POLYCARDONATE. THE SIGNAL HEADS SHALL HAVE FLAT BLACK HOUSINGS AND VISORS.

3) THE TRAFFIC SIGNAL CONTROLLER AND RELATED EQUIPMENT SHALL BE AN ECONOLITE ASC/3-2100 (NEMA TS2) IN A NEMA P44 TRAFFIC CONTROL CABINET WITH 15' BASE EXTENSION INSTALLED AT THE LOCATION SHOWN ON THE PLANS IN ACCORDANCE WITH STANDARD E-171B. TRAFFIC CONTROL CABINET SHALL BE ORIENTED SUCH THAT THE DOOR DOES NOT FACE THE ROADWAY.

4) ALL SIGNAL HEADS SHALL HAVE RED. YELLOW & GREEN LE.D. SIGNALS WITH A VISIBLE BEAM SPREAD OF 80 DEGREES OFF AXIS

5) ALL SIGNAL EQUIPMENT SHALL BE PAINTED FLAT BLACK IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

1) SWITCH-OVER TO NEW SIGNAL SYSTEM SHALL NOT OCCUR DURING PEAK TRAFFIC OPERATING PERIODS. UNIFORMED TRAFFIC OFFICERS SHALL CONTROL TRAFFIC

2) ALL SIGNALS SHALL DWELL ON THE US ROUTE 5 THROUGH MOVEMENT UNLESS OTHERWISE NOTED.

3) THE US ROUTE 5 THRU PHASE SHALL BE USED FOR THE START-UP PHASE FOLLOWING FLASHING OPERATION.

C) PULL BOXES AND JUNCTION BOXES

1) FULL BOXES AND JUNCTION BOXES ARE DETAILED ON STANDARD E-173. MINIMUM JUNCTION BOX SIZE SHALL BE 18" X 12" X 12", OR LARGER AS REQUIRED BY THE FLECTBICAL CODE

2) THE LOGO ON PULL BOXES/JUNCTION BOXES SHALL BE "TRAFFIC SIGNAL".

3) ALL PULL BOXES AND JUNCTION BOXES SHALL BE INSTALLED IN ACCORDANCE WITH VTRANS' STANDARD SPECIFICATIONS FOR CONSTRUCTION', DATED 2011, SECTION

1) ALL TRAFFIC SIGNAL CONDUIT SHALL BE SCHEDULE 80 PVC.

2) ALL TRAFFIC SIGNAL CONDUIT WORK SHALL BE PERFORMED IN ACCORDANCE WITH VTRANS "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2011, SECTION 478

E) VEHICLE STOP BAR DETECTION

1) VEHICLE DETECTORS SHALL BE PLACED SO THAT OCCLUSION IS MINIMIZED AND PHASING IS NOT AFFECTED.

2) VEHICLE DETECTION AREAS SHALL EXTEND FIVE FEET PAST THE STOP BAR.

3) VEHICLE DETECTION SYSTEM SHALL BE ECONLINE AUTOSCOPE DUO VIDEO DETECTOR OR WAVETRONIX RADAR DETECTOR

4) SEE THE PLANS OR THE SPECIAL PROVISIONS FOR A DETAILED LIST OF EQUIPMENT.

F) MAST ARM FOUNDATIONS

1) FOUNDATIONS SHALL BE DESKINED IN ACCORDANCE WITH THE MREI 10-01 GUIDELINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SOIL BORINGS AND FOUNDATION DESKIN IN ADDITION TO FABRICATION DRAWINGS. THE BORING LOCS, DESKIN CRITERIA AND DESKIN CALCULATIONS SHALL BE SUBMITTED WORKING DRAWINGS IN ACCORDANCE WITH VIRANS STANDARD SPECIFICATIONS FOR CONSTRUCTIONS, DATED USSECTION 1050.

G) GENERAL

1) A UNIFORMED TRAFFIC OFFICER WITH A BLUE LIGHT SHALL BE PRESENT DURING ALL LANE CLOSURES.

2) THE CONTRACTOR SHALL ACQUIRE ALL NECESSARY PERMITS AND MAKE ALL NECESSARY ARRANGEMENTS WITH THE UTILITY COMPANY TO PROVIDE A PERMANENT POWER SUPPLY TO THE TRAFFIC SIGNAL EQUIPMENT. THE ROUTING OF POWER TO THE UNTERSECTION SHALL BE SUCH THAT THE STATE HAS FULL RESPONSIBILITY FROM THE TRANSFORMER THROUGH THE SIGNAL STSTEM. NO INTERVENTING OWNERSHIP/RESPONSIBILITY SHALL BE ALLOWED.

3) ALL ELECTRICAL WIRING SHALL BE DONE BY A LICENSED ELECTRICIAN AND OVERSEEN BY A MASTER ELECTRICIAN.

4) ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO VIRANS "STANDARD SPECIFICATIONS FOR CONSTRUCTION" DATED 2011, WITH CURRENT MODIFICATIONS.

5) IF REQUIRED, OVERHEAD SIGN/SIGNAL SUPPORTS SHALL CONFORM TO AASHTO'S "STANDARD SPECIFICATION'S FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, INAIRES, AND TRAFFIC SIGNALS", DATED 2013, AND IT'S LATEST REVISION.

6) SEE STANDARD E-171A FOR ADDITIONAL NOTES.

7) CONTRACTOR SHALL SCHEDULE FINAL INSPECTION AND OBTAIN WRITTEN APPROVAL OF WORK FROM VIRANS' SIGNAL TECHNICIAN.

SIGNAL EQUIPMENT & INSTALLATION SPECIFICATIONS

1) ALL NEW EQUIPMENT SHALL MEET OR EXCEED VIRANS STANDARD SPECIFICATION 678 & 752, NEMA STANDARDS AND INSA OR ITE SPECIFICATIONS, WHERE APPLICABLE. INSTALLATION OF SIGNAL EQUIPMENT SHALL BE AS DETAILED ON THISE PLANS AND THE VIRANS STANDARD DETAILS REFERENCED.

2) THE TRAFFIC SIGNAL, LIGHTING AND ALL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THI NATIONAL ELECTRIC CODE BY A MASTER ELECTRICIAN LICENSED IN THE STATE OF VERMONT. ALL ELECTRICAL EQUIPMENT AND WIRING SHALL BE UL RATED FOR ITS INTENDED USE.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF EACH NEW TRAFFIC SIGNAL EQUIPMENT ITEM TO THE RESIDENT ENGINEER FOR APPROVAL. SHOP DRAWING SUBMITTALS SHALL CONFORM TO VIRANS SPECIFICATIONS.

4) ALL POLE MOUNTED AND MAST ARM MOUNTED SIGNAL AND PEDESTRIAN HEADS SHALL HAVE POLYCARRONATE SECTIONS AND LENSES. THE SIGNAL HEADS SHALL HAVE FLAT BLACK HOUSINGS AN YEOGS. BLACK LOLVERED BACKPLATES SHALL BENSTALLED ON ALL HEADS. ALL NEW SIGNAL HEADS SHALL BE IZ LED. MAST ARM MOUNTED HEADS SHALL BE DOWNTED THE PREFERRED METHOD DETAILED IN E-171C, AND SHALL ALSO BE SECURED WITH SAFETY CHAINS/CABLES

6) ALL CONDUIT SHALL BE 2.0 INCH AND A SPARE FOR EACH RUN.

7) THE CONTROLLER SHALL BE AN ECONOLITE BRAND ASC/3-2100 (TS-2 TYPE 2) CONTROLLER PLACED IN AN ECONOLITE PH 4 GROUND MOUNTED CABINET AT THE LOCATION SHOWN ON THIS PLAN. A GTS CLOCK AND SPARE DATA KEY WILL BE PROVIDED. THE CONTROLLER SHALL BE PROGRAMMED AND BENCH TESTED PRIOR TO DELIVERY AS PER VITANS-SPECIFICATIONS.

8) THE DWELL PHASE (US ROUTE 5) SHALL BE USED FOR THE START-UP PHASE FOLLOWING FLASHING

9) THE CABINET SHALL BE PAINTED FLAT BLACK FINISH WITH A POWDER COATING PROCESS.

10) THIS PROJECT INCLUDES THE INSTALLATION OF A VEHICLE STOP BAR DETECTION SYSTEM. THE SYSTEM SHALL INCLUDE:

A. APPROVED STOP BAR DETECTORS.

B. ALL VEHICLE STOP BAR DETECTION EQUIPMENT SHALL INCLUDE ALL MOUNTING HARDWARE.

OBSERVATIONS. FINAL ACCEPTANCE OF THIS PROJECT BY VIRANS WILL BE SUBJECT TO A 30-DAY TEST PERIOD, NOT IT OBERION UNTIL AFTER VIRANS DETERMINES ALL PAVEMENT AND MARKINGS ARE COMPLETE, DURING WHICH ALL ADJUSTMENTS SHALL BE MADE AND EQUIPMENT PROBE EMS CORRECTED

12) UPON COMPLETION OF THE 30-DAY TEST PERIOD, THE CONTRACTOR SHALL PROVIDE TO THE RESIDENT ENGINEER AND VIRANS UPDATED SIGNAL TIMING PROGRAMMING SHEETS SHOWING ALL MODIFIED

13) EVERY MEMBER AND CONNECTION IN AN OVERHEAD TRAFFIC SIGNAL SUPPORT SHALL BE DESIGNED TO PROVIDE ADDITIONAL RESIDUAL CAPACITY FOR FUTURE MODIFICATION EQUIVALENT TO A 5-SECTION TRAFFIC SIGNAL HEAD WITH A 5-INCH LOUVERED BACK PLATE LOCATED ON THE OUTERMOST EXTENT OF THE MAST ARM.

14) SEE SHEET C-10 FOR ADDITIONAL FOUNDATION AND MAST ARM DESIGN SPECIFICATIONS.

STREET LIGHTING GENERAL NOTES

A) WHEN CONCRETE BASES ARE INSTALLED IN SLOPING GROUND. THE GREATEST EXPOSED HEIGHT TO KEEP ALL OF THE TOP ABOVE GROUND MUST BE DOUBLED AND THEN ADDED TO THE MINIMUM DEPTH FOR THE TOTAL BASE DEPTH.

B) CARE SHOULD BE TAKEN WHERE CONCRETE BASES, DRAINAGE STRUCTURES OR UTILITIES ARE CLOSE TOGETHER.

C) THE OFFSET FOR CONCRETE BASES (FACE OF CURB OR EDGE OF PAVEMENT TO CENTER OF CONCRETE BASE) SHALL BE A MINIMUM OF 2'-6" OR AS OTHERWISE NOTED ON THE PLANS.

2) POLES ANCHOR BASES AND ARMS

A) ALL NEW STREET LIGHT POLES, POLE BASES AND LUMINAIRE ARMS SHALL BE ALUMINUM, PAINTED FLAT BLACK.

B) ALL STREET LIGHT POLES SHALL HAVE A FRANGIBLE OR BREAKAWAY DEVICE (TRANSFORMER BASE, UNLESS NOTED ON THE PLANS).

C) UTILIZE APPROVED DUAL-RATED PARALLEL TAP CONNECTOR WITH INSULATING COVER TO TAPS AT FOLE BASES.

3) LUMINAIRES

A) LUMINAIRES SHALL BE L.E.D. TYPE ONLY.

BY DOLE MOUNTED LUMINAIRES SHALL BE ONE OF THE FOLLOWING ONLY:

C) ALL LUMINAIRES SHALL BE THE SAME; A MIX OF FIXTURES WILL BE ALLOWED. NO LUMINAIRE SUBSTITUTIONS OTHER THAN THOSE ON THE PREVIOUS LIST SHALL BE ALLOWED.

D) ALL LUMINAIRES SHALL BE EQUIPPED WITH BIRD SPIKES ON TOP

E) ALL LUMINAIRE HOUSINGS SHALL BE PAINTED FLAT BLACK.

4) CONDUIT SLEEVES

A) THE SLEEVE SHALL EXTEND TO WITHIN TWO FEET OF THE SIDE OF A CONCRETE BASE OR PULLBOX. WHERE NO CONCRETE BASE OR PULLBOX IS PRESENT, THE SLEEVE SHALL EXTEND FOUR FEET BEYOND THE OUTSIDE EXEG OF SHOULDER OR TAGE OF CURB. BACKFILLING A SHOUND A SLEEVE SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THE SLEEVE SHALL BE SCHEDULER.

A) ALL WIRING BETWEEN THE METER AND/OR THE FOWER SOURCE AND THE FIRST POLE AND/OR PULLBOX AND BETWEEN FOLES AND/OR PULLBOX SHALL BE COPPER AND SIZE AS SPECIFIED ON THE PLANS. ALL WIRESHALL HAVE TIPE AHMY INSULATION OR EQUIVALE.

B) CIRCUIT CONDUCTORS SHALL BE CLEARLY IDENTIFIED BY CORROSION RESISTANT TAGS INDICATING CIRCUIT NUMBER AND PANEL SOURCES AT EVERY POLE BASE AND HANDHO

STREET LIGHTING GENERAL NOTES CONTINUED

A) ALL CONDUIT MUST INCLUDE A GROUNDING CONDUCTOR. RIGID STEEL CONDUIT SHALL BE PROPERLY CONNECTED AT THE JOINTS SO AS TO BE WATERTIENT AND MAINTAIN ELECTRICAL CONTINUITY AND HAVE GROUNDING BUSHINGS SO AS TO ACT AS A GROUNDING CONDUCTOR

B) THE GROUNDING CONDUCTOR SHALL BE CONTINUOUS

C) ALUMINUM WIRE SHALL NOT BE USED FOR GROUND WIRE

A) POLYMER CONCRETE AND REINFORCED FIBERGLASS U.L. LISTED PULLBOXES AND HANDHOLES SHALL BE INSTALLED WITH HEAVY DUTY COVERS.

B) ALL CONNECTIONS IN HANDHOLES SHALL BE MADE WITH INSULATED WATERPROOF MECHANICAL SCREW-TYPE CONNECTOR SUITABLE FOR DIRECT BURIAL. NO BARE OR

A) THE LOAD ON EACH BRANCH OF A THREE WIRE CIRCUIT SHALL BE AS BALANCED AS POSSIBLE.

B) THE LAST CONCRETE POLE BASE AT THE END OF EACH CIRCUIT AND SOME PULLBOXES SHALL

O THE CONTRACTOR SHALL ACQUIRE ALL NECESSARY PERMITS AND MAKE ALL NECESSARY THE CONTRACTOR SHALL ACQUIRE ALL NICLESSARY FERRITS AND MAKE ALL NICLESSARY REARRANGEMENTS WITH THE UTILITY COMMAN TO FROUTE A FEASIANENT POWER SUPPLY TO THE STREET LICHTING SISTEM. IF APPLICABLE, THE ROUTING OF FOWER TO THE SISTEM SHALL BE SICKET HAT THE ACENCY OF TRANSPORTATION HAS FULL RESPONSIBILITY FROM THE TRANSPORMER THROUGH THE LIGHTING SYSTEM. NO INTERVENING OWNERSHIP OR RESPONSIBILITY SHALL BE ALL OWED.

D) ALL CONNECTING HARDWARE (NUTS, BOLTS, ETC.) SHALL BE STAINLESS STEEL

E) MATERIALS AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS' LABORATORIES AND SHALL BE INSTALLED IN ACCORDANCE WITH SUCH LISTINGS.

F) ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE INATIONAL ELECTRICAL CODE, AND ALL CODES, REGULATIONS AND REQUIREMENTS OF ALL MUNICIPAL, STATE, FEDERAL AND OTHER PUBLIC OR PRIVATE AUTHORITIES WHICH HAVE JUREDICTION. IN FACH CASE, CODES ARE MINIMUM REQUIREMENTS.

9) ILLUMINATION REQUIREMENTS

REVISION: 05/07/15 - REVISED PLAN SET PER VTRANS COMMENT

TRAFFIC SIGNAL LAYOUT & NOTES SHATTUCK HILL INVESTMENTS, LLC INTERSECTION OF U.S. ROUTE 5 AND INTERSTATE 91 DERBY, VERMONT

UGGIANO Engineering, inc.

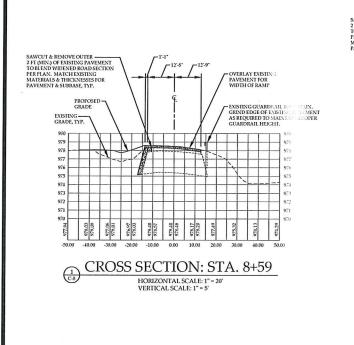
ST. ALBANS, VERMONT 05478 PHONE - (802) 524-9300 FAX - (802) 524-9700

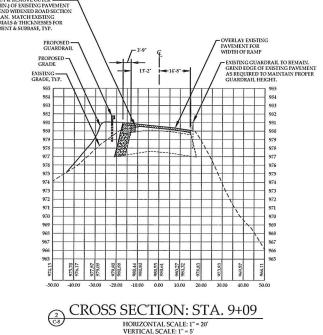
PROIECT NO.......05130.1 DRAWN BY.....JGE CHECKED BY.... CPC SCALE.....1" = 20 DATE....03/27/15

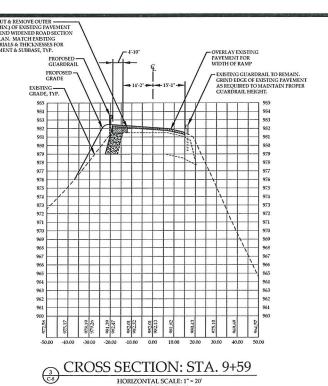
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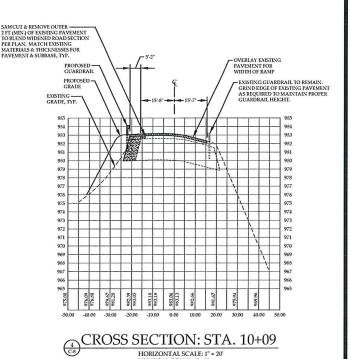
CONLEY ASSOCIATES

349 Lakewood Drive Killington, VT 05751 (802) 345-2321 www.ConleyAssociates.com

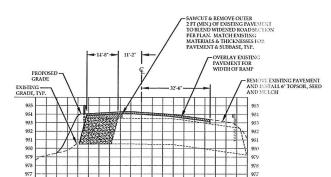


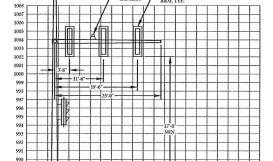


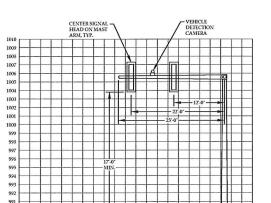




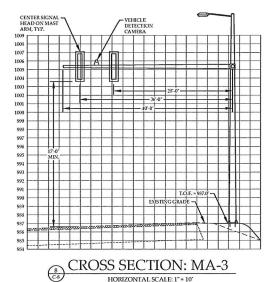
HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 5'







HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 5'



CROSS SECTION: STA. 10+59 HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 5'





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CROSS SECTIONS SHATTUCK HILL INVESTMENTS, LLC INTERSECTION OF U.S. ROUTE 5 AND INTERSTATE 91 DERBY, VERMONT

HORIZONTAL SCALE: 1" = 10' VERTICAL SCALE: 1" = 5'

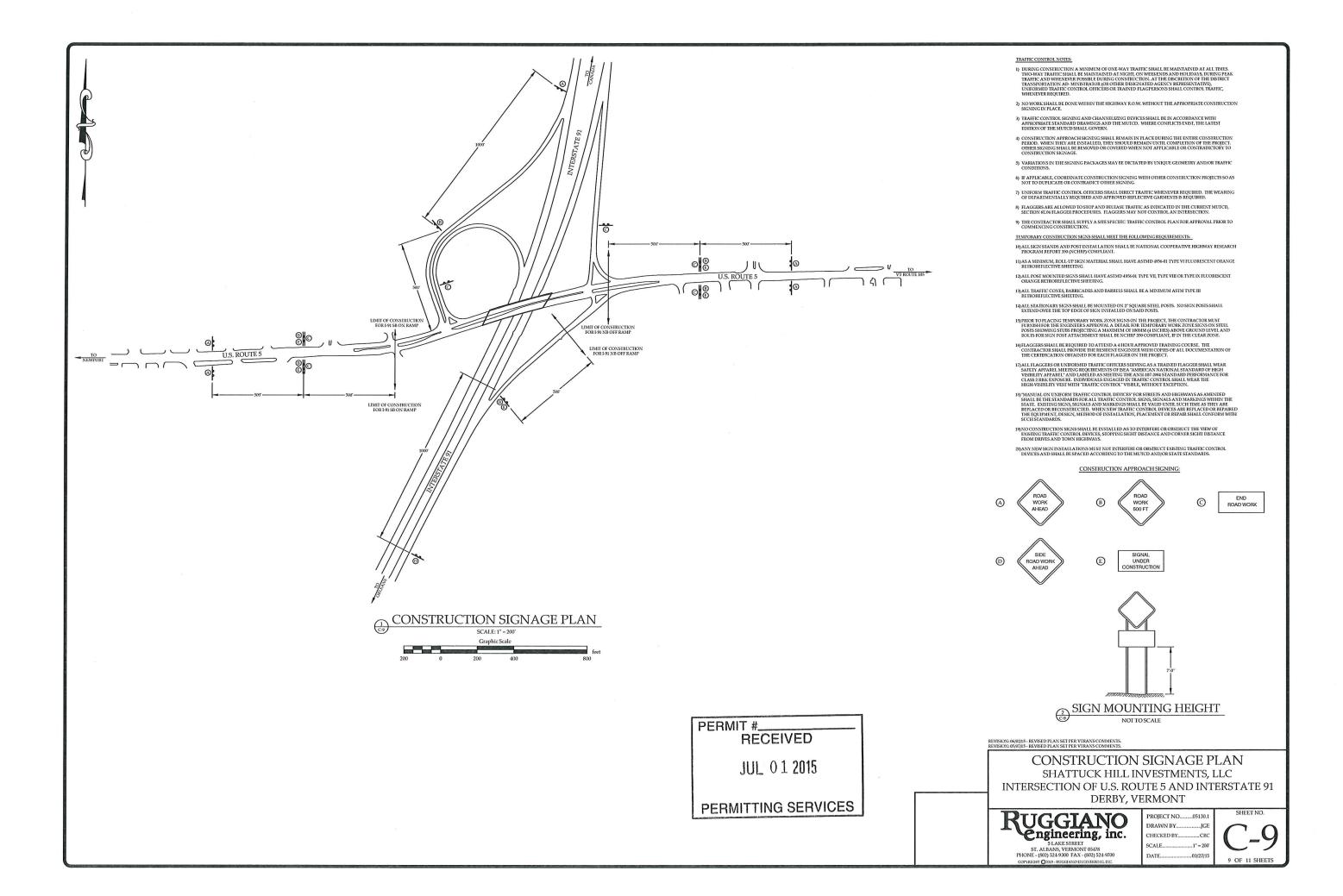
RUGGIANO engineering, inc. 5 LAKE STREET

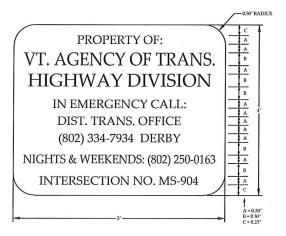
ST. ALBANS, VERMONT 05478

PHONE - (802) 524-9300 FAX - (802) 524-9700

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PROJECT NO.......05130.1 DRAWN BY.....JGE CHECKED BY.... SCALE.....AS NOTED03/27/15





LEGEND: - BLACK (NON-REFL.) - STAMPED PRIOR TO PAINTING.
BACKGROUND: NATURAL ALUMINUM OR BRASS SURFACE

NOTES:

- THE PLAQUE SHALL BE MOUNTED ON ALL TRAFFIC SIGNAL CONTROLLER CABINETS. IT SHALL BE FASTENED TO THE CONTROLLER CABINET IN SUCH A MANNER AS TO BE NOT LEASHLY REMOVED, SUCH AS WELDED, RIVETED OR BOLIED WITH VANDAL PROOF BOLTS.
- THE LETTERS SHALL BE PUNCHED OR STAMPED. SUCH STAMPING SHALL PENETRATE AT LEAST 1/2 THE BASE MATERIAL THICKNESS.
- THE BASE MATERIAL FOR THE PLAQUE SHALL BE BRASS OR ALUMINUM WITH A MINIMUM THICKNESS OF 0.100 INCHES.
- 4) THE CONTRACTOR SHALL VERIFY THE PROPER TELEPHONE & INTERSECTION NUMBERS PRIOR TO FABRICATION OF THE PLAQUE.



PLACED AFTER CONCENT TO CHARACTER CONCENT TO CHARACTER ANCHOR BOLT CHARACTER CONCENT TO CHARACTER ANCHOR BOLT CHARACTER CONCENT TO CHARACTER CONCENT TO CHARACTER ANCHOR BOLT CHARACTER CONCENT TO CHARACTER CONCENT TO CHARACTER ANCHOR BOLT CHARACTER ANCHOR BOLT CHARACTER CONCENT TO CHARACTER ANCHOR BOLT CHARACTER ANCHOR CHARACTER ANCHOR BOLT CHARACTER ANCHOR BOLT CHARACTER ANCHOR CHARACTER ANCHOR BOLT CHARACTER ANCHOR CHARACTER

ANCHOR BOLT DIA. BY POLE MANUFACTURER

INTERRUPTED

INTER

ANCHOR BOLT DETAIL

1 1/4" X 48" 1 1/2" X 60" 1 3/4" X 90" 2" X 96"

SIZE L (IN.) T (IN.)

ANCHOR BOLT DETAIL

TRAFFIC SIGNAL GENERAL NOTES:

- 1) ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSFORTATIONS (VTRANS) "STANDARD SPECIFICATIONS FOR CONSTRUCTION" DATED 2011, WITH CURRENT MODIFICATIONS.
- OVERHEAD SIGN/SIGNAL SUPFORTS SHALL CONFORM TO AASHTO'S "STANDARD SPECIFICATION: FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", DATED 2009 AND TIS LATEST REVISIONS.
- 3) THE DESIGN CALCULATIONS SHALL TAKE INTO ACCOUNT THE FOLLOWING CRITERIA:

STRUCTURAL CRITERIA

A) DESIGN LIFE: 50 YEARS

B) WIND LOAD: 90 MPH UNLESS SPECIAL SITE CONDITIONS DICTATE KE LOAD PER AASHTOS PUBLICATION TITLED "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SKINS, LUMINAIRES AND TRAFFIC SIGNALS", DATED 2009, AND ITS LATEST REVISIONS.

FATIGUE CRITERIA

A) FATIGUE CATEGORY: 1 FOR MAST ARM SIGN STRUCTURES, 2 FOR SIGNAL MAST ARMS.

B) VORTEX SHREDDING: INCLUDE

C) NATURAL WIND GUSTS: INCLUDE

D) TRUCK INDUCED WIND GUSTS: INCLUDE FOR ROADWAYS WHERE SPEED LIMIT IS 40 MPH OR GREATER.

E) GALLOPING: DO NOT INCLUDE IN DESIGN CALCULATIONS.

FOUNDATION CRITERIA

- A) CONCRETE: HIGH PERFORMANCE CLASS B, VTRANS "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2011, SECTION 501.
- B) REINFORCING STEEL: VIRANS "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2011, SECTION 713.01.
- C) ALLOWABLE BEARING CAPACITY: TO BE DETERMINED.
- D) INTERNAL SOIL FRICTION ANGLE: TO BE DETERMINED.
- 4) ANCHOR BOLTS: FOUR STAINLESS STEEL ANCHOR BOLTS WITH TWO HEXAGON NUTS, ONE WASHER AND ONE LOCK WASHER PER BOLTS HALL BE FURNISHED WITH EACH POLE, ANCHOR BOLT PLATES, WHEN YELD, SHALL ALSO BE STAINLES STEEL. SEE VIRANS "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2011, SECTION 711-09.
- 5) FLANGE BOLTS: ALL FLANGE BOLTS AND HEX NUTS SHALL BE HIGH STRENGTH STEEL AND SHALL CONTORN TO ASTM A325. THE FLANGE BOLTS SHALL BE CAPABLE OF RESISTING 133% OF THE FULL DESIGN STRESS OF THE TUBE AT ITS YELD STRENGTH SIRESS.
- OF HORIZOTAL AND VERICAE MEMBERS. STEEL TURES SHALL BE FORMED AND WELDED WITHOUS CONTINUOUS LONGITUDINAL WELD ONLY. AFTER FORMING AND WELDING THEY SHALL BE COLD FOLLED TO ENSURE UNIFORMITY OF SIZE AND SMOOTHNESS OF WELD. THEY SHALL BE COLD FOLLED TO ENSURE UNIFORMITY OF SIZE AND SMOOTHNESS OF WELD. THEY SHALL HAVE A MINIMAN YIELD STRENGTH OF SIXES IT HERE SHALL BE NO TRANSVERSE WELDING EXCEPT AT THE HANGES AND PLATES AND SHOPE CONTINUOUSLY WELDED BOTH SIDES INSIDE AND OUT TO WITHSTAND THE FULL TRANSFER OF THE BENDING STRENGTH TO THE BOLTS. OPTIONALLY, THE MEMBERS MAY BE A SERIES OF TWO OR THREE DIFFERENT DAMETER PIPES WELDED TO CENTRE STEEL TURES SHALL BE CONSTRUCTED FROM MATERIALS CONFORMING TO VIRANS "STANDARD SPECIFICATIONS" FOR CONSTRUCTED FROM MATERIALS CONFORMING TO VIRANS "STANDARD SPECIFICATIONS" FOR CONSTRUCTION TO SELECT.
- 7) GALVANIZING: ALL SIEEL COMPONENTS, EXCEPT CONCRETE REINFORCING AND STAINLESS STEEL HARDWARE, ARE TO BE HOT DIPPED GALVANIZED AFTER PABRICATION. THE ASSEMBLES SHALL BE DESIGNED AND FABRICATION OF DEPRHIT GALVANIZING ON A LIL INTERIOR AND EXTERIOR SURFACES AND SHALL BE FREE OF POCKETS AND OTHER STRUCTURAL DISTRUCTIONS THAT WILL NOT PERMIT PROPER DEPOSITION OF EXINC GOATING, GALVANIZING SHALL BE IN ACCORDANCE WITH VIRANS 'STANDARD SPECIFICATIONS FOR CONSTRUCTION'; DATED 2011, SECTION 752.02.

8) WELDING

A) ALL DESIGN DETAILS, WORKMANSHIP, PROCEDURES AND INSPECTION SHALL CONFORM WITH VTRANS "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2011, SUBSECTION 506.10.

B) ALL WELDS SHALL BE AT LEAST AS STRONG AS THE MATERIAL(S) BEING WELDED.

9) FOUNDATIONS:

A) FOOTINGS SHALL BE DESIGNED IN ACCORDANCE WITH VIRANS' MATERIALS & RESEARCH ENGINEER INSTRUCTIONS - GEOTECHNICAL DESIGN PROCEDURES FOR MAST ARM AND OVERHEAD SIGN SUPPORT FOUNDATIONS (MRE 110-01) DATED MARCH 9, 2010, A COPY OF WHICH CAS BE FOUND ON THE AGENCYS WEISTIE: WWWA.OT STATE VI.U.S.

B) FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING NOTES:

1) A MINIMUM EMBEDMENT DEPTH OF FIVE FEET SHALL BE USED FOR ALL SPREAD FOOTING FOUNDATIONS; MEASURED FROM THE GROUND SURFACE ELEVATION TO THE BOTTOM OF THE FOOTING ELEVATION.

2) EXCEPT FOR THE UTPERMOST TWO FEET OF SOIL, DRILLED SHAFT FOOTINGS SHALL BE FOURED AGAINST UNDSTURBED MATERIAL; THE FOR TWO FEET OF SOIL SHALL BE NEGLECTED FOR DESIGN FURNOSIS. A DISPOSABLE CIRCULAR FLOWAJ, IF SEED, SHALL NOT BE FLACED BEFER THAN TWO FEET, IN ORDER NOT TO REDUCE. THE FRICTION BETWEEN THE SOIL AND THE CONCRETE.

3) AS AN ALTERNATIVE TO THE DRILLED HOLES, FOOTINGS MAY BE POURED IN EXCAVATED HOLES USING THE PROPER FORMS, WHICH MUST BE REMOVED. THE EXCAVATED HOLES SHALL BE AT LEAST TWO FEET CLEAR OF THE FOLINDATION SHOLDS AND ONE FOOD DEFERE THAN THE FOUNDATION: CARE SHALL BE TAKEN TO AVOID EXCAVATING AROUND THE TOP OF THE FOUNDATION. THE BEACHTLI AMERIKAL SHALL BE COMPACTED AS DESCRIBED IN VIRAN STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, SUBSCIENCE SALLZ DESCRIBED AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, SUBSCIENCE SALLZ DESCRIBE AND ACCEPTED TO THIS AS FOR ACCEPTED FOOTING AFTLY.

4) ANY BACKFILL MATERIAL PLACED ADJACENT TO THE FOOTINGS SHALL BE GRANULAR MATERIAL MEETING THE REQUIREMENTS FOR GRANULAR BACKFILL FOR STRECTURES VITANS "STANDARD SPECIFICATIONS FOR CONSTRUCTION," DATED 2011, SUBSECTION 70418. TI SHALL BE COMPACTED AS DESCRIBED IN VITANS "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2011, SECTION 2019.

5) CONCRETE FOR THE FOUNDATION SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE, CLASS B, VITANS STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, SECTION SO, ISTRUCTURAL CONCRETE. IF DRILLE DISINET FOUNDATIONS ARE REQUIRED. THE CONCRETE SPECIFICATIONS MAY NEED TO BE ADJUSTED FOR CONSTRUCTABLITY SEUEL. HOWEVER, IF REQUIRED, THE CONTRACTOR SHALL SURMIT ANY CHANCES TO THE CONCRETE SPECIFICATION FOR REVIEW BY THE VITANS PROJECT MANAGES.

6) STEEL PILES SHALL MEET THE REQUIREMENTS OF VTRANS 'STANDARD SPECIFICATION

7) WHEN THE DESIGN DEPTH OF A FOOTING CANNOT BE OBTAINED DUE TO UNFORESEEN HELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR THE MANUFACTURER AND OBTAIN A REVISED FOUNDATION DESIGN, SUCH A REVISION SHALL BE SUBMITTED TO VITRANS PROJECT MANAGEMENT AND MAY REQUIRE UP TO A 4 WEEK REVISEN PERIOD BY VITRANS.

C) SIGNALS/SIGNS SHALL BE INSTALLED AND LEVELED AND POLES SHALL BE PLUMB PRIOR TO PLACING GROUT UNDER POLE BASE. GROUT MATERIAL SHALL BE NON-SHRINKING MORTAR CONFORMING TO YRANS 'S TANDARD SPECIFICATIONS FOR CONSTRUCTION', DATED 2011, SUBSECTION 707.03, MORTAR TYPE IV.

10) EACH OVERHEAD TRAFFIC SIGNAL SUPPORT SHALL BE GROUNDED. THE GROUND SHALL CONSIST OF THE FOLLOWING:

A) AN INTERNAL GROUND LUG OPPOSITE THE HAND HOLE.

 B) A #6 (MIN.) SOFT DRAWN COPPER GROUNDING ELECTRODE CONDUCTOR.

C) A 5.6" X.5" (MIN.) COPPER CLAD GROUNDING FLECTRODE. HHE RESISTANCE TO GROUND SHALL BE 25 OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES MAY BE REQUIRED (MINIMUM SPACING SHALL BE 6.9). WHEN A POWER SERVICE, MEETER AND DESONNECT ARE A TTACHED TO A POLE, THERE SHALL BE A CONTINCIO'S GROUNDING ELECTRODE CONDUCTOR FROM THE MEITER AND DISCONNECT WHICH MAY ROIN INTERNALL TO THE UPRIGHT, THROUGH THE 1/2" FLEXIBLE TUBING IN THE CONCRETE BASE TO THE REQUIRED GROUNDING ELECTRODES, THE GROUNDING HE CONTINCIO'S GROUNDING ELECTRODES, THE GROUNDING HE TO THE CONTINCIO'S GROUNDING CHECK TOOLEGADE, THE GROUNDING HE FOR THE TO THE CONTINCIO'S GROUNDING CHECK TOOLEGADE, THE GROUNDING HE FOR THE AND DISCONNECT. THE CONTINCIO'S GROUNDING ELECTRODE CONDUCTION FROM THE SERVICE METER AND DISCONNECT.

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INSPECTOR THAT THE GROUNDING ELECTRODE CONDUCTOR ROON THE SERVICE METER AND DISCONNECT AND THE RESISTANCE TO GROUND IS 25 OHMS OR LESS.

MAST ARM FOOTING APPROX. SCALE: 1" = 1'-0"

- 11) HORIZONTAL MEMBERS SHALL BE CAMBERED AND THE VERTICAL POLES BACKRAKED (WHERE APPLICABLE) TO THE ANTICIPATED DEAD LOAD DEFLECTION PLUS THE CAMBER, IF ANY, SPECIFIED ON THE PLANS.
- 12) AN EQUIVALENT ALTERNATE DESIGN MAY BE SUBSTITUTED FOR THE DETAILS AND MATERIALS SHOWN.

ELEVATION

- 13) THE DETAILS OF DESIGN FOR THE STRUCTURE AND FOUNDATION ARE TO BE SUPPLIED BY THE CONTRACTOR AND/OR BY THE MANUFACTURER. THE STRUCTURE SHALL BE DESIGNED TO BESIST THE MANUMU LOADING AS OUT ILLING IN THE ASASHIO STRUMBED SPECIFICATIONS SEE NOTE 2, ALL DESIGN CALCULATIONS FOR THE STRUCTURE AND THE FOUNDATION SHALL BE CHECKED AND STAMPED BY A STRUCTUREAL EXCESSEE REGISTERED IN THE STATE OF VERMONT PRIOR TO SUBMITTAL OF THE FABRICATION DRAWINGS TO THE VIRANS.
- 14) THE CONTRACTOR SHALL SUBMIT THREE COPIES OF THE DESIGN CALCULATIONS TO THE VTRANS ENGINEER, SHOWING THE FOLLOWING INFORMATION FOR EACH OF THE VERTICAL AND HORIZONTAL COMPONENTS OF THE STRUCTURE AND FOUNDATION:
 - A) THE DESIGN AXIAL AND SHEAR FORCES AND BENDING AND TORSIONAL MOMENTS ACTING AT THE TOP OF THE FOUNDATION.
 - B) THE DESIGN AXIAL, BENDING AND SHEAR STRESSES AND THE COMBINED STRESS RATIO.

 C) VIBRATION AND FATIGUE CALCULATIONS AS SET FORTH IN SECTION 11 OF THE AASHTO PUBLICATION REFERENCED IN NOTE 2.
 - D) THE ALLOWABLE AXIAL, BENDING, AND SHEAR STRESSES.
 - E) ITEMS A, B, AND D SHALL BE SHOWN FOR EACH OF THE GROUP LOADINGS (I, II, III) AND FOR THE BASIC WIND LOAD APPLIED TO THE TWO CASES OUTLINED IN THE AASHTO STANDARD SPECIFICATIONS (SEE NOTE 2) SECTION 1.25 (D)(4).
 - F) FAILURE TO SUPPLY THE PROPER DESIGN INFORMATION SHALL BE CAUSE FOR REJECTION OF THE STRUCTURE.
 - H) A MINIMUM OF FOUR (4) WEEKS SHALL BE REQUIRED FOR REVIEW BY VTRANS
- G EVERY MEMBER AND CONNECTION IN AN OVERHEAD TRAFFIC SIGNAL SUPPORT SHALL BE DESIGNED TO PROVIDE ADDITIONAL RESIDUAL CAPACITY FOR FUTURE MODIFICATION EQUIVALENT TO A 5 SECTION TRAFFIC SIGNAL HEAD WITH A 5 INCH LOUVERED BACK PLATE LOCATED ON THE OUTERNOST EXTENT OF THE MAST ARM.
- 15) FABRICATION DRAWINGS (6 COPIES OF EACH) SHALL BE SUBMITTED TO THE VTRANS PROJ MANAGER FOR APPROVAL, PRIOR TO FABRICATION. THE FABRICATION DRAWINGS SHALL INCLIDE THE FOLLOWING INFORMATION:
 - A) DETAILED DRAWING OF EACH COMPONENT OF THE STRUCTURE
 - B) MATERIAL SPECIFICATION FOR EACH COMPONENT OF THE STRUCTURE, EITHER BY COMPLETE SPECIFICATION OR BY REFERENCE TO APPLICABLE ASTM STANDARDS.
 - C) NOTATION OF PROJECT NAME, PROJECT NUMBER, ROUTE NUMBER, AND STRUCTURE STATIONING TO BE INCLUDED ON EACH SHEET.
 - D) DETAILS FOR LOCATION OF SIGNS/SIGNALS AND ATTACHMENT HARDWARE FOR THE SUPPORT STRUCTURE.
 - E) ALL ELEVATIONS AND DIMENSIONS NECESSARY TO PROVIDE A COMPLETE SET OF RECORD PLANS.
 - F) DEAD LOAD DEFLECTION AND CAMBER INFORMATION.
 - G) WELDING DETAILS AND PROCEDURES ARE REQUIRED FOR ALL WELDS. PROCEDURES SHALL BE SUBMITTED FOR APPROVAL WITH REFFERNCE TO EACH WELD IDENTIFIED ON THE FABRICATION DRAWNICS. (SEE VITRANS "STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, 5/EBSECTION 5/64/10).
- 16) THE TRAFFIC SIGNALS SHALL BE MOUNTED TO THE ARM OR POLE USING A FIXED MOUNT SYSTEM, UNLESS OTHERWISE NOTED ON THE CROSS SECTION SHEET. FOR SIGNALS MOUNTED ON A MAST ARM, THE MAST ARM AND MONINING POINT SHALL BE IN THE MIDDLE OF THE SIGNAL HEAD.
- 17) BASE FLATES SHALL BE STAMPED WITH THE VERTICAL POLE DIAMETER, HEIGHT, VIELD STRENGTH, GAUGE AND THE HORIZONTAL MEMBER DIAMETER, LENGTH, VIELD STRENGTH, AND CAUGE. ALTERNATELY, THE INFORMATION MAY BE STAMPED ON A METAL TAG RIVETED TO THE POLE NEAR THE HAND HOLE.

18) SEE STANDARD E-171A FOR ADDITIONAL NOTES.

19) CONTRACTOR TO SCHEDULE FINAL INSPECTION AND OBTAIN WRITTEN APPROVAL OF WORK FROM VTRANS TRAFFIC SIGNAL TECHNICIAN.

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ARD SPECIFICATIONS GER NOIT 2).
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2" SCORE MARK DETAIL

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JUL 01 2015

PERMITTING SERVICES

EVISION: 06/05/15 - REVISED PER MEETING WITH VTRANS. EVISION: 06/02/15 - REVISED PLAN SET PER VTRANS COMMENT

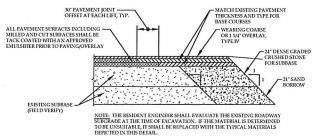
DETAILS & MISCELLANEOUS NOTES SHATTUCK HILL INVESTMENTS, LLC INTERSECTION OF U.S. ROUTE 5 AND INTERSTATE 91 DERBY, VERMONT

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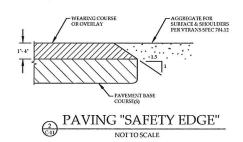
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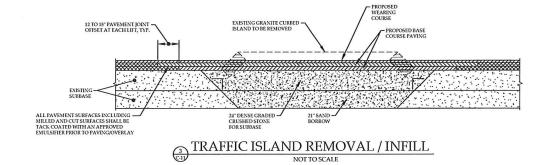
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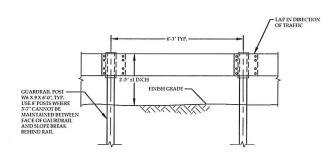
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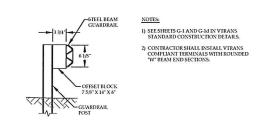




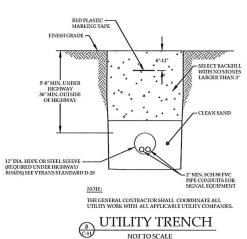


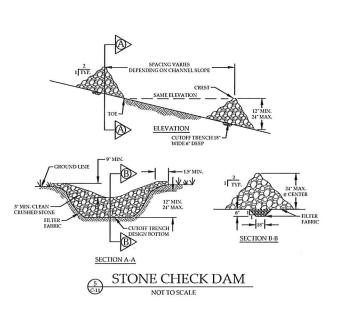


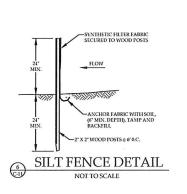


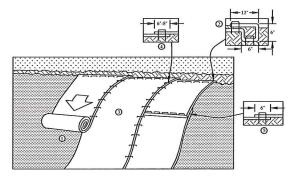












- 2) BEGIN AT THE FORD IT THE SLOTE BY ANCHORING THE EQRIN A OF DEEP, O'VICE TRENCH WITH APPROXIMATELY 12' OF BLANKET EXTREMED BROWN THE LIP-SCOPE FRONTINO OF THE TRENCH ANCHOR THE BLANKET WITH ANOW OF BLANKET WITH ANOW OF THE TRENCH AFTER STAPLING. AND PROPERTIES FOR THE TRENCH AFTER STAPLING. AND PROPERTIES FOR AND FOLD REMAINING 12' FORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. AND FOLD REMAINING 12' FORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. AS CUEBO VER COMPACTED SOIL WITH A ROW OF STAPLES-STAKES SPACED APPROXIMATELY 12' APART ACROSS THE WIDTH OF THE BLANKET.
- 3) ROLL THE BLANKET DOWN THE SLOPE. BLANKET WILL UNROLL WITH THE APPROPRIATE SIDE AGAINST THE SOIL SU ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES STAKES IN APPROPRIATE LOCA SHOWN IN THE STAPLE PATTERN QUIDE. WHEN USING THE DOT SYSTEM, STAPLES STAKES HOULD BE PLACED THROL EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- 4) THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" 8" OVERLAP DEPENDI 5) CONSECUTIVE BLANKETS SPLIKED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.

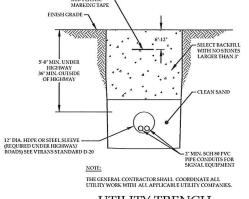
EROSION CONTROL BLANKET - SLOPE INSTALLATION

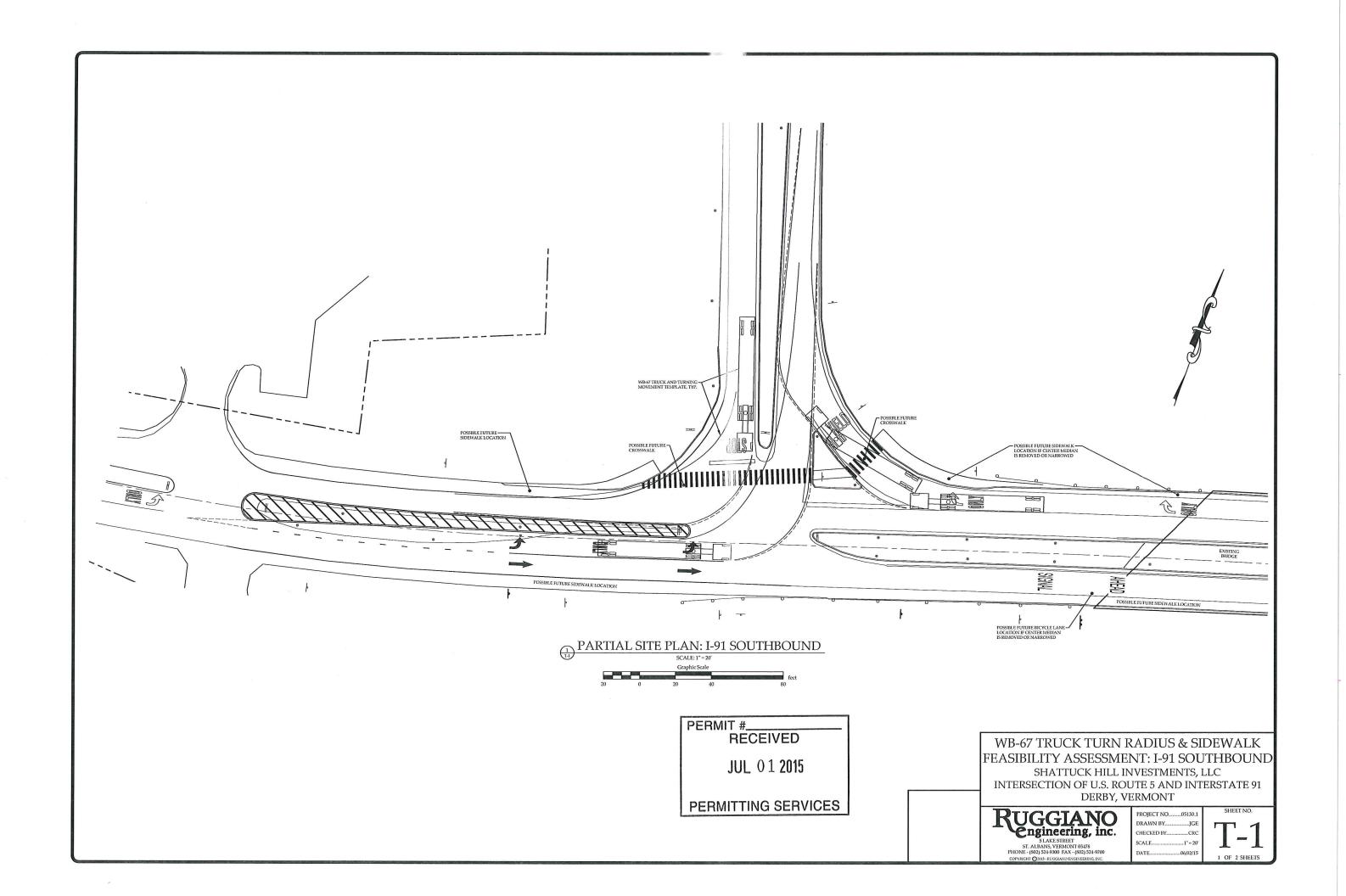
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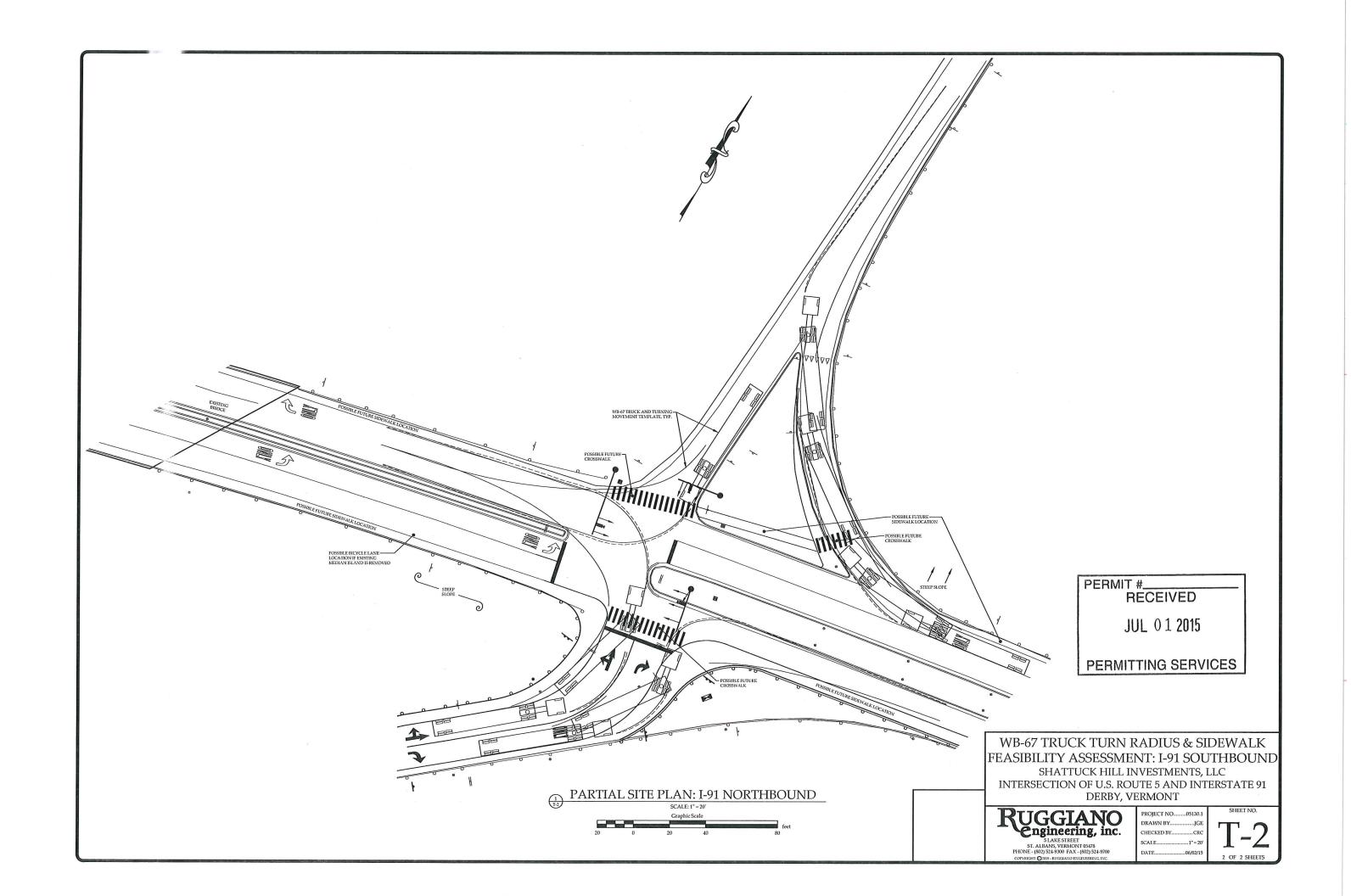
SITE DETAILS SHATTUCK HILL INVESTMENTS, LLC INTERSECTION OF U.S. ROUTE 5 AND INTERSTATE 91 DERBY, VERMONT

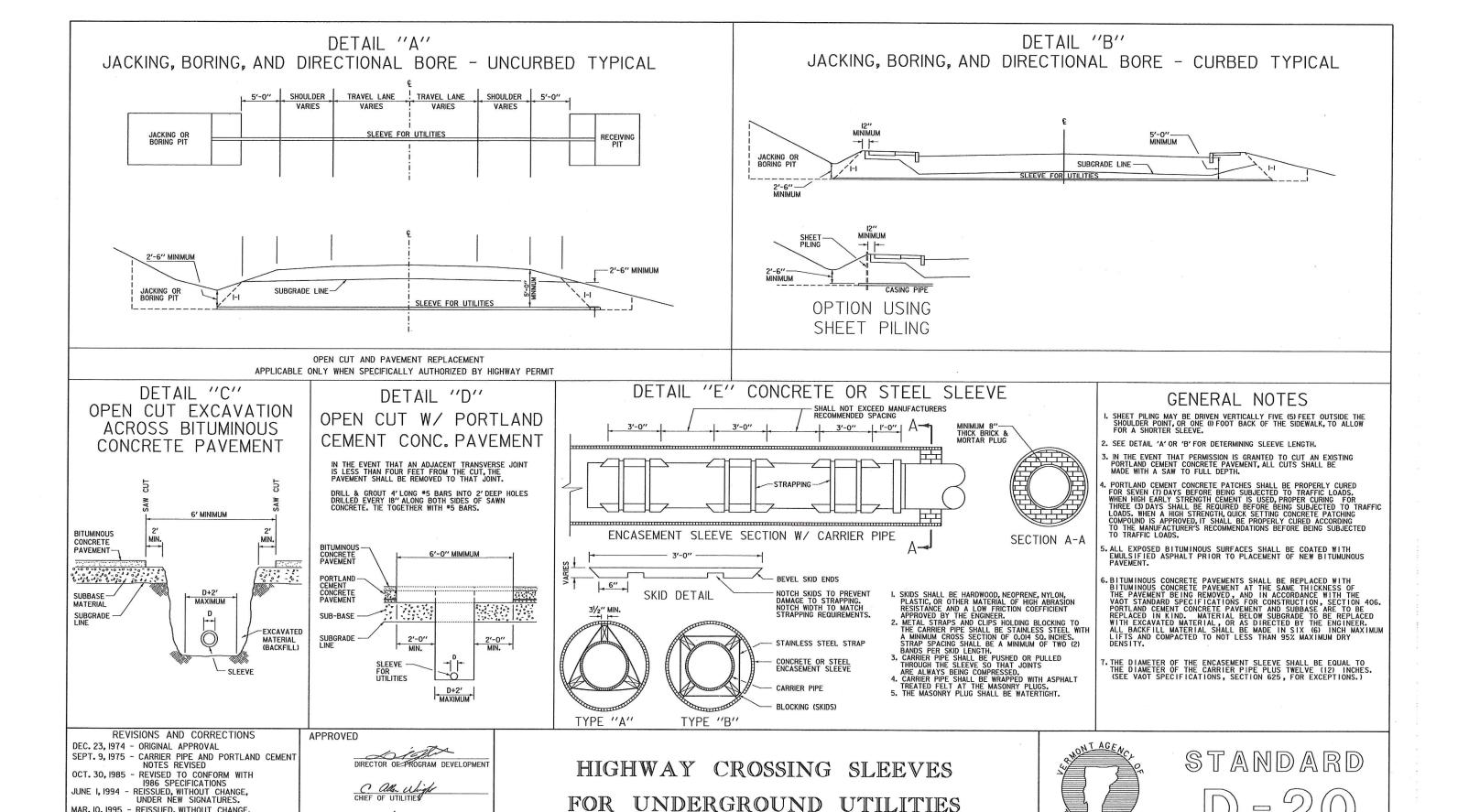
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PROIECT NO......05130.1 DRAWN BY......IGE CHECKED BY SCALE.....AS NOTED DATE.....03/27/15









MAR. 10, 1995 - REISSUED, WITHOUT CHANGE,

UNDER NEW SIGNATURES.

MARCH 3, 2003 - REVISED TO REFLECT CURRENT DESIGN CRITERIA

Mrad FEDERAL HIGHWAY ADMINISTRATION